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Military Affairs

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Military Affairs

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19 May 1993

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CIS/RUSSIA ARMED FORCES

Maj-Gen Dudnik Criticizes Russian Army's 'Right-Communist Orientation'

934F0483A Moscow *NOVOYE VREMYA* in Russian
No 13, Mar 93 pp 16-17

[Article by Major-General Vladimir Dudnik: "700 Extra Generals; Everything Else in the Army is in Short Supply"]

[Text] The right-communist orientation of the Russian Army and its politicization which has been taken to the extreme have become obvious since the All-Army Officer's Meeting of 21-22 February, and the march and meeting on Manezhnaya Square.

The main personages there were reserve and retired generals and officers, together with veterans of the CPSU.

However, it would be erroneous to call the meeting in Manezhnaya Square a "show of retirees." Without a doubt, it expressed the real sentiments in the army.

There are around three million veterans of the Great Patriotic War living on the territory of Russia. The number of reservists among the post-war population is no less than this. Thus, the February meeting of officers presented the point of view of several million people who have taken off their shoulder straps. But not only their point of view.

The Army Is Marching to the Right

According to the data of military sociologists, in November of 1992 only 19 percent of the military servicemen supported the government, while 56 percent were opposed to it. Sixty percent of the officers did not approve of the decisions of CIS leaders on military questions.

The president's popularity in army circles is relatively low. He is supported completely by 30 percent, 10 percent are categorically opposed to him, and 60 percent did not define their position.

No less than one-third of the officer's corps speaks out for the re-creation of the USSR, and the same number—against the cutting of military expenditures. Two-thirds favor the introduction of a regime with a firm hand (but not the hand of Yeltsin) and a state sector in the economy. The national-patriotic forces enjoy the support of 70 percent of the officers. These data correlate with the results of surveys conducted by the All-Russian Center for the Study of Public Opinion in January of 1993.

Independent expert evaluations testify to the fact that most of the cadre officers are also in opposition to the leadership of Russia, as are those who have gone on reserve. The February meeting of officers, undoubtedly, spoke in their name. In the army and in the name of the

army, agitation against the lawful authorities is going on, and appeals for violence are heard.

The newspaper *DEN* published a proclamation with the provocative headline: "Victory Will be Ours." Having reported that underground officer's organizations have appeared in the army, its compilers address the officers with an appeal to unite illegally on a strictly conspiratory basis and "to act according to the principle of combat *troikas*."

Military journalist Aleksandr Zhilin had the opportunity to meet with members of the underground party officer's committee. Here is what he heard:

"It makes no sense to cooperate with these authorities... We are formulating open contempt for the current rulers... We need a leader without intellectual complexes... We intend to act decisively. There really may be a lot of blood..."

We may conclude that the officer's corps, which entered the independent political arena in January of 1992 in the form of the All-Army Officer's Meeting and its Coordinating Council, by March of 1993 has become formulated into a military party with a clearly outlined anti-constitutional face.

A Regional Policeman?

President Yeltsin has spoken out in favor of having international organizations, including the UN, grant Russia specific powers and authorities as the guarantor of peace and stability on the territory of the former USSR. We are speaking of peacekeeping operations in the geostrategic space of the CIS.

The numerous local, so-called ethnic, conflicts have a tendency to grow into regional wars. Participation in these processes by the Russian Army, or its inactive observation of them, cannot go unpunished. In one case, it morally decomposes it, and in the other it develops the reflex of becoming accustomed to violence.

Obviously, stabilization of the situation in the nearby foreign countries is not a problem foreign to Russia. However, the regular question arises: How and with what forces to fulfill it? Will that army which Russia has do this independently, and is it up to the task? Or will united forces be created, with its participation?

Russia's intervention in the affairs of the former USSR republics for purposes of stabilizing the situation there, even under the auspices of the UN, CEMA [Council for Economic Mutual Assistance] or the EC [European Community], not within the make-up of international forces, but alone, is dangerous. Even the formally neutral presence of Russian troops in Georgia is evaluated differently by the warring sides there. Vladislav Ardzinba believes that in Abkhaziya they are performing peacekeeping functions. Eduard Shevardnadze accuses them of destabilizing the situation in Georgia. It is not excessive to recall that our battalion of "blue helmets" in Yugoslavia is being accused of one-sided sympathies.

Evidently, its ethnic, historical, geographical and ideological affinity and the strict political programming of our Soviet-Russian Army, is hard to overcome, especially for its generals. Under these conditions, there is a great probability of the international forces of the CIS being turned into military-political forces, and of Russia being turned into a Eurasian gendarme, policing the space of the former USSR.

Today, Russia is the most militarized country in the world. However, it is far from being the mighties.

It has neither the special training, nor the proper organization, nor the appropriate arms, equipment and experience for conducting special operations to ensure stability in the regions.

The heavy losses suffered in the very first hours and days of the war in North Ossetia showed that our army is not ready to conduct local combat operations. And in a world which is saturated with super-weapons and ecologically dangerous industries and technologies, they are the initial and basic, if not the only acceptable method, of preventing foreign aggression, and particularly forceful neutralization of domestic armed conflicts.

Strategic forces have become an object of political speculation. Their status, as a parliamentary investigation of one of the military units showed, cannot be considered satisfactory. It is unlikely that they are capable of conducting current strategic operations in such a state. The training level of the flight personnel is at a critically low level, and the technical level of aircraft is evaluated by specialists as being catastrophic. The training level of the fleet stationed primarily in the ports is declining at a catastrophic rate.

The army is only half staffed with soldiers and sergeants. The contract service is also of no help. Today in the army there are only 18,000 volunteers. Yet at the top of the staff there are almost 700 generals. Many of them are assigned to various state feeding troughs.

As During the Time of Serfdom

The prestige and authority of the army continue to decline. Almost half of those surveyed in 56 VUZes [institutions of higher learning] and 30 military units stated that they would not volunteer to serve in the army under any circumstances.

The army is ridden with crime. Every day, 60 crimes are committed in it. One in 20 is intentional murder, and one in six is theft of a weapon and ammunition.

Four out of every five soldiers in the army are subjected to physical and moral degradation, and one in five leaves the army with some health impairment. In 1992 there were 2.5 times more deserters than in the previous year. Every week, up to 120 people deserted. Most of these deserters never returned.

Today there are no democratic institutions in the army, and social life has died. Military servicemen are socially

unprotected. Each one is in a serf-like dependence on his commander. The formula of one-man leadership and order remains as before, and the legal definition of the concept of the illegal order has been blocked by parliament.

In various forms, the army is involved in domestic political processes. Generals and senior officers take part in parliamentary battles, and thousands sit in soviets of all levels.

The zone of increased risk for Russian politics remain the forces which are stationed outside the national boundaries, often as a means of forceful provision of great policy. The probability of emergence of a semi-partisan and simply a bandit-like formation is increasing. According to expert evaluations, already today there are around 500 unlawful and "independent armed formations" on the territory of the CIS. To a significant degree they consist of those who are today missing from the Russian army, and who are armed with weapons stolen or bought from it.

The army, and primarily its top leadership, did not take an oath to the new state and the new authorities, and is opposing doing so in every way possible: You take an oath only once in your life, they say. From the moral and juridical standpoint, nothing keeps it from acting against the government.

Experts have long and repeatedly warned the generals. The Soviet Army, like the system which gave rise to it, is not subject to reformation. We must build a new army. However, our stubbornness of rank and refusal to consider world experience and the challenge of history may cost us the army. And maybe even the state

Minister of Defense Pavel Grachev supported President Yeltsin and in essence accused the leadership of the Supreme Soviet of patronizing those who politicize and disintegrate the army, citing the name of General Achalov.

However, the minister's positions within the army are weak. A significant part of the officer's corps cannot forgive him the fact that in August of 1991 he in fact refused to carry out Yazov's orders, and went over to the side of the Russian leadership.

The officer's assembly would like to see Colonel-General and Russian People's Deputy Vladislav Achalov in the role of minister of defense.

An assistant to Yazov and the commander of the airborne troops, Achalov was removed from his duties after the August putsch. The Supreme Soviet saved him from criminal responsibility, taking into consideration the ill health of the paratrooper-general. Achalov left the hospital to occupy the post of military advisor to Ruslan Khasbulatov.

Mobilization Chief Lt-Gen Bocharov on Manning Shortfall

93UM0458A Moscow KRSNAYA ZVEZDA in Russian
16 Mar 93 pp 1,3

[Interview with Russian Federation Armed Forces General Staff Main Organizational-Mobilization Directorate Chief Lieutenant-General Gennadiy Nikolayevich Bocharov by KRSNAYA ZVEZDA Correspondent Lieutenant Colonel Anatoliy Dokuchayev: "Our Russia Is Large and Has a Large Population but There Is No One to Serve in the Armed Forces"]

[Text] Manning of division-sized and smaller units is among the "sore points" of our military structural development that have been mentioned in KRSNAYA ZVEZDA. Russian Federation Armed Forces General Staff Main Organizational-Mobilization Directorate Chief Lieutenant-General Gennadiy Nikolayevich Bocharov tells our commentator how the army and navy look today in this context and what is being done to resolve problems.

[Bocharov] The draft has ended and manning problems have become more critical. The plan for the autumn draft was only 95.5% fulfilled which is much lower than the results of the spring (1992) draft. Things went better in the Moscow, Far East, Transbaykal, and Volga military districts and worse in the North Caucasus and Leningrad military districts.

On the whole, ground and naval forces are approximately 50%-60% manned. That is a tolerable situation in RVSN [Strategic Missile Forces], Naval and VDV [Airborne Troops] units and in the aerospace and nuclear-technical forces. But the personnel shortage has become more critical in the Ground Forces, PVO [Air Defense] Forces, and Air Force. In general, the Armed Forces are in a catastrophic situation due to extremely low manning.

[Dokuchayev] Gennadiy Nikolayevich, how did we reach this life?

[Bocharov] We drafted 27%-29% of the young men on the military register. The law does not permit more. And meanwhile a significantly higher percentage of young men are being drafted in countries where a finely-tuned mixed manning system exists. By way of illustration, 50% in Germany, 58% in France, 75% in Spain, 84% in Turkey and 85% in Italy.

Moreover, the draft campaign was conducted at a time when the Law "On Military Obligation and Military Service" had still not been enacted. And there is such a broad list of deferments... This spring we will be able to draft only 16% of the young men who are on the military register. The law has lost its universality in the fulfillment of military duty by citizens. It turns out that Russia is large but there is no one to serve the Fatherland.

[Dokuchayev] Is the Law "On Military Obligation and Military Service" at fault for that?

[Bocharov] The Law has introduced many new things into the manning system, much of which will serve the cause of strengthening Russia's defense capability. However, first of all about the painful things. I have already talked about the reduction of the draft contingent to 16% as a result of the expansion of the list of deferments. We will bear with no less pain the repeal of mandatory training of specialists in the ROSTO [Russian Defense Sports Technical Organization] (former DOSAAF) system. The voluntary nature (I want to—I go, I want to—I don't go) will result in the collapse of a finely-tuned system for training young men in extreme shortage, complex military specialties. Now young people will hardly go to radiotechnical and naval schools. And they will begin to decline... And these schools could render substantial assistance to the army under conditions of the reduction of service to 1.5 years.

It's understandable that much in the law makes us happy. Say, contract service has been legalized. Right now the time is such that we can't get by without professionals. The local organs of power responsibility for drafting young men has been increased. Previously, the military commissar bore all of the responsibility. Now the deputies of the heads of administration of local regions will become the draft board chairmen. We would like them to be held more accountable to the government for the conduct of the draft—demand must be made more strict. We will continue to strictly question the military commissar on the draft, however his power functions have been reduced. And it would be rational if the heads of administration were held accountable for the conduct of the draft and for fulfillment of prescribed tasks at government sessions.

[Dokuchayev] Gennadiy Nikolayevich, still on the whole do you support the law?

[Bocharov] Based upon the big picture, I am even not against its details. If we talk about the future, all of the provisions of the draft law will organically become part of our lives. But today?... The Armed Forces are experiencing starvation in augmentation and new deferment paragraphs are being presented to them. In 1993, we are releasing servicemen of three drafts, one spring and two autumn drafts—the last 2 year and the first 1.5 year draftees will be released. An enormous number of young men will leave the army and we will draft a miserly number. Other draft laws, for example "On the Militia", will also throw a wrench in the works for us.

[Dokuchayev] How?

[Bocharov] Very simply, the law authorized the recruitment of 18-year-old young men, who have not served in the army, into the militia organs. Previously, the MVD [Ministry of Internal Affairs] was more punctilious, they took only those who had already served and who have experience, weapons handling skills, and army tempering. Today, without having coordinated this important issue with the Ministry of Defense, they conducted the Law "On the Militia" through parliament and they

will "lead away" thousands more young men from the 16% that I previously mentioned.

[Dokuchayev] This is the third time you talk about the 16%.

[Bochayev] As they say, I have them under my skin. And I will soon have to talk about a more modest figure. The Law "On Alternative Service" is being prepared for review. I spoke in parliament and I asked the legislators to strictly approach the definition of the grounds for assigning young men to alternative service. We think that religious convictions can serve as the only grounds for that. All the more so since that can be verified. Is the young man number a parishioner, since when has he been attending church, etc. Any pacifist grounds must be excluded from the draft law. The rejection of force by a young man and an unwillingness to serve in the army are being suggested as grounds for assignment to alternative service. In that case, in general no one will be drafted.

The General Staff is not against the Law "On Alternative Service". However, we request that its enactment be deferred for 2-3 years and, if there is a possibility, for an even longer duration. Once the mixed manning system has been finely tuned and has begun to operate, it will be another matter.

[Dokuchayev] But service on contract. Will it not permit the increase of Armed Forces manning to a significant degree? They proposed recruiting 100,000 volunteers in 1993.

[Bochayev] Contract service—that is the future but today it is still experimental in nature. A total of approximately 25% of the plan have been recruited. They will really be able to augment subunits and units. In the majority they are those people who have already been in units and later concluded a contract. A few have come in from the reserve. And for now, it's obvious that we can hardly expect a substantial addition. Why?

A reservist, as a rule, has an apartment or some kind of housing, he has a family and his children are attached to a school or kindergarten. If there is a unit nearby—he can go there to serve. But it is difficult to move this type from the location and to send him there where the shortage of military specialists is being more keenly felt. Of course, there are reservists who do not have housing... But experience has shown that even they do not particularly intend to leave the "places where they have always lived"...

In a word, it is very problematical if we will be able to recruit 100,000 professionals with the R6 billion that has been allocated by the government—start-up sums for their salaries were calculated in last year's prices.

[Dokuchayev] Right now reports are appearing in the press that the leaders of some republics, krais and oblasts are making independent decisions on the priority manning of civil defense and internal troops units and military builders that are deployed in these regions. At

the same time, reports are being published that draftees will not be sent to serve more than 1,000 kilometers from home. But who will now serve in Kamchatka, in the North and in the Transbaykal where there are difficulties with draftees. Is the General Staff taking any steps whatsoever here?

[Bochayev] I will point out that the Law "On Defense" stipulates the extraterritorial manning principle. And therefore the actions of the local authorities of a number of regions are arbitrary in nature. They are thereby introducing a muddle into the distribution of draft resources and army manning. Here I can name the heads of administration of the republics of Komi, Bashkortostan, the Udmurt Republic, the Nizhegorod governor and the Ivanovo Oblast Oblast Soviet. The Republic of Tatarstan has stopped the flow of young augmentees, it is sending young men only to units deployed within its borders.

As for the "1,000 kilometer zone", we have not received any orders and we have not sent any documents to military commissariats on that score. We are strictly guided by the requirements of the Law "On Defense", by the Minister of Defense's orders and by the Chief of the General Staff's directives.

[Dokuchayev] If you can, several words on the manning of Russian units that are located outside the Russian Federation—in "hot spots". Judging by the mail we are receiving, things are especially bad there.

[Bochayev] Yes, there is a great deal of undermanning in units that are located in "hot spots". The fact that recruitment there is based on volunteers is having an impact. Units in the Transcaucasus and the Dniester Republic have already been manned like that for 1.5-2 years and only those who desire are being sent to Tajikistan since 1 January 1993. Indeed, those who were drafted there are obliged to complete their terms of service.

Let me take advantage of the opportunity to direct attention to this factor. Some of our citizens think that the consent of the parents is required to send a soldier or sergeant to "hot spots". The Law does not stipulate that. Servicemen are adults and they are capable of making decisions themselves. And later we suggest "hot spots" not for draftees but for soldiers and sergeants who have served no less than six months and who have completed training subunits.

[Dokuchayev] You can't win for losing but we need to man the Armed Forces. Does the General Staff have any serious proposals?

[Bochayev] We certainly do. But I think that first of all the Supreme Soviet, the President and the government must take steps. The Armed Forces—are a state institution. Terminating the force of certain articles of laws that have been adopted and at the same time accelerating the development of the next "packet" of military documents

would be the optimal variation right now when the army has found itself, one could say, at a critical stage.

The General Staff proposes reducing the number of military departments—the Minister of Defense supports us in that. The time has come to bring the number of military departments into compliance with the requirements for reserve officers. As they say, we have a surplus of individual specialties. In that case, we would draft 220,000-250,000 draftees into the army in the positions of soldiers and sergeants after graduation from VUZ's [higher educational institutions] and only later award them an officer rank and assign them to the reserve. Today, the majority of VUZ graduates immediately receive an officer rank and become reservists.

We must carry out the government's decisions (still union) and disband the military construction detachments of civilian ministries and departments in the prescribed time periods.

It is advisable to conduct augmentation of units of the Central Road Construction Directorate, the railroad troops and MVD subunits on a professional basis. There is also a moral factor here. A young man is drafted to protect the Fatherland and they suggest that he guard prisoners and carry out various economic tasks. That does not inspire young people.

In conclusion, I would like to once again heighten the problem: 1993 may end with a catastrophe for the Armed Forces if urgent measures to bring manning of ground and naval forces to full strength are not taken today. The parliament and executive power must know about that. The appropriate documents have been sent to the Supreme Soviet addressed to Ruslan Khasbulatov, to the government addressed to Viktor Chernomyrdin for the signature of the ministries of the three power departments. A letter is also being prepared for the President.

Moscow Colonel Says Armed Forces 'Not Combat-Ready'

*AU2903125193 Hamburg DER SPIEGEL in German
29 Mar 93 p 168*

["Excerpts" from a lecture by Colonel Yevgeniy Morosov, member of the officers' association, to a meeting of officers of the Moscow military district on 20 March 1993: "Officers Against Yeltsin"]

[Text] Some 40 million people live in the Moscow military district, almost one-third of Russia's population. This district is also the largest industrial center, accounting for more than one-third of the country's total industrial production. It is, thus, a key area for all of Russia. However, the level of defense-readiness is extremely low.

After the disintegration of the Warsaw Pact and the Soviet Union, this former central region has shifted to the edge. It has 1,000 km of borders with foreign states.

From the NATO territory it is only separated by Poland, which is seeking NATO membership, and by Belarus, which has officially announced a policy of neutrality.

The Polish Government is clearly ready and constantly trying to participate in all Western actions against Russia, and can count on the support of the majority of its population in this matter.

According to a lot of information, Belarusian neutrality is only a means to avoid a military alliance with Russia and to set up a protective wall against the spread of Russia's military influence toward the West. In the event of a Western military action against Russia, Belarusian neutrality will turn out to be a fig leaf or a wall of fog.

Although we know exactly that the overwhelming majority of the Belarusian people is siding with the fraternal people of Russia, the people in power there continue to be pseudo-nationalists and disciples of Gorbachev. They are ready to sell everything, which is why we have to worry about the future of the Moscow military district.

NATO is directing its forces of the so-called Central European military area against the Moscow region, forces which, under normal conditions—the term "peaceful conditions" refuses to pass my lips—consists of up to 36 divisions and 35 brigades and regiments. In the event of a decision to attack, these units could be extended to 90 divisions, including 4,000 fighter aircraft, within one month.

These figures do not include the Polish Army, although its participation in a possible aggression is most likely. Even if NATO were to need six months for the strategic buildup, the Russian Armed Forces would not be able to prepare sufficiently to defend the country against such an aggression.

Since Russia is unable to take the adequate countermeasures, it is not in a position to wage a war against NATO. In such a situation, one can only capitulate in view of such an act of military extortion. The country is unprotected and defenseless—not only toward interventions but also toward any kind of dictate.

This is how low our proud country, our great Army have sunk. We have not been defeated on the battlefield but we were stabbed from behind with a poisoned dagger. The only factor that still delays this situation are the remaining units of our Western Group of Forces (in the former GDR). Irrespective of how demoralized these forces might be—and there are many signs of it—and how unfavorable its operational position might be, it is still able to do considerable damage to Western Europe.

Yet, to prevent disturbing NATO's military planning, the withdrawal times have been revised, that is to say shortened. Only one year remains. Once this year is over, we are absolutely at the mercy of NATO, or rather of the United States.

This becomes all the more obvious if one looks at the forces and resources for defense that Russia has in the Moscow military district: five military units—one division against eight to twelve NATO divisions, and 200 km of open borders per division. Through the Paris Treaty (on conventional arms limitation), our government confined in advance any possibilities to strengthen the Army. Our potential enemy can count on at least a 400 percent superiority.

The infrastructure of the Moscow region has never been prepared for a possible combat scenario. There are absolutely no fortifications. There are only 11 km of roads with a solid surface per 100 square kilometers. Facilities for loading and unloading at railroad stations are far from being adequate. There are no reserves in material goods. All we have is an adequate network of airports, but even those must be modernized.

The forces in the Moscow district are not combat-ready. The most important units are understaffed, with only one-quarter counting more than 50 percent of the planned personnel. The combat strength of the region's air force is only 50 percent. We lack 45 percent of all commanders of platoons and companies. For the last call-up, only 25 percent of the contingent could be registered, in Moscow as little as 10 percent.

The regiments have only the gasoline they need for the regiment commander's car and for the food trucks. The level of discipline is appalling; some 400 criminal proceedings had to be instituted on the grounds of different crimes last year alone. Some 20,500 military staff are without housing.

We have been maneuvered into a situation in which our Armed Forces are bound to lose a war and be defeated without being able to fulfill their duty to protect our fatherland. We can never put up with such a situation. We are willing to protect Moscow, to defend our fatherland, and to win.

Spring Call-Up Begins

Presidential Edict on Spring Draft

93UM0480A Moscow KRASNAYA ZVEZDA in Russian
3 Apr 93 p 1

[Unattributed report: "Report of Press-Service of the President of the Russian Federation"]

[Text] Today Russian Federation President Boris Nikolayevich Yeltsin issued an Edict for the April-June 1993 call-up of citizens born in the years 1966-75 for military service in the Armed Forces of the Russian Federation, other troops and military formations of the Russian Federation. The same edict discharges from military service and enlists in the reserves, in April-June 1993, all soldiers, sailors, non-commissioned and petty officers and military construction workers who have served their stipulated terms of military service.

Moscow, Kremlin, 2 Apr 93

Need, Prospects for Successful Spring Draft Viewed

93UM0480B KRASNAYA ZVEZDA in Russian
7 Apr 93 p 1

[Article by Colonel Gennadiy Miranovich of KRASNAYA ZVEZDA: "The Draftees Are Ordered To Enter the Ranks. Good Luck, New Recruits of 1993!"]

[Text] So the latest call-up of the youth for military service is beginning in the Russian Federation in accordance with the Edict of the President of 2 Apr 93 (RF Minister of Defense Order No. 175 was promulgated on April 3 on this score). It will take place from April 1 through June 30 according to the recently adopted "Military Obligation and Military Service" law. Citizens of the RF born in the years 1966-75 are subject to the call-up. The same edict discharges into the reserves in April-June soldiers, sailors, non-commissioned and petty officers and military construction workers who have served out their stipulated terms of military service.

What will the current call-up campaign be like? The Chief of the General Staff, the military commissar and the head of the local administration, who are today responsible by law for organizing the draft, and the commander of the military unit who is waiting for reinforcements, are all thinking about this with alarm and with hope today.

With alarm, because the upheavals of the past fall are still fresh in memory, when even after a 20-day extension for sending new recruits to the ranks, the efforts of the military commissariats and the law-enforcement bodies were only able to deliver 27—29 percent of those on the military rolls to the ranks. The troops and forces are only 50—60 percent manned as a result, which of course cannot fail to have an effect on the organization of training, service and all of the vital activity of the army and navy.

And also with hope, since regardless of everything, military organizational development in Russia continues, and its Armed Forces, that are taking on clearer and clearer outlines, are already being called the guarantor of stability in our unsettled country. The necessary structural changes are being consistently implemented in the army and navy, as well as in the Ministry of Defense Strategic plans that correspond to the contemporary realities in the world, the CIS and Russia are being developed. The legal formulation of the Armed Forces, including work on military doctrine, is in the completion stage. The army and navy are becoming more compact, more mobile and more attractive to the youth as the result of cutbacks and transformations. The first domestic "pros" have appeared in the units and on the ships. The man in epaulets feels himself better protected in a social regard.

The fact that responsibility for ensuring the fulfillment of the measures connected with the draft are entrusted this time by presidential edict to the Council of Ministers—the government of the Russian Federation—the bodies of executive power of the republics that are part of the RF, the krais, oblasts, autonomous oblasts, autonomous okrugs and cities of Moscow and St. Petersburg is also reassuring. This, it must be assumed, will ease the lot of the military commissariats, which in times past were effectively left one on one with the many difficult problems of the draft. There is already information, by the way, on the first steps of the local authorities to meet the military commissariats halfway, so to speak. The newspaper MOSKOVSKIY KOMSOMOLETS reports that the Moscow City Military Commissariat and the rayon commissariats, by order of the mayor of Moscow, have been permitted to make use of the services of the Central Address and Reference Bureau of the capital GUV D [Main Internal Affairs Administration] without charge to ascertain the addresses of draftees who are "on the run." The military commissariats, as is well known, used to have to pay for those services.

The President has also issued instructions to the appropriate ministries to organize and pay for the transport of draftees and those discharged from military service who use various modes of transport. Many questions of the parents of the future soldiers will also fall away of their own accord due to the provision of the edict that the manning of military units in the Armed Forces of the RF, other troops and military formations outside the borders of the Russian Federation will be accomplished only on a voluntary basis by servicemen called up starting 1 Apr 93...

That naturally does not mean that the current call-up is destined for success. The damage inflicted in recent years to the prestige of the man in epaulets and the profession of defender of the Fatherland cannot be made up all at once. Enormous and painstaking work lies ahead at the state level—including work connected with organizing the patriotic education of the youth and improvements in the system of their professional orientation and training for military service. We will have to begin advertising it in earnest, as difficult as it may be owing to various costs of an economic nature and the still-insufficient attractiveness of military service compared with some other types of occupations that are considered more prestigious. Which is already being done, for example, in the airborne-assault troops, the Strategic Missile Troops and some other branches of the Armed Forces. It is too early to talk about the results of that work, but one thing is obvious even today—market competitiveness for the advertising of the army and navy "product" can be conceived only with the participation and support of the state.

No little difficulty lies ahead for us in providing manpower for the army and navy this year, due to the expansion of the list of legal deferments from the draft for military service. The number of draftees this spring could drop by up to 16 percent from the number on the

military rolls, according to the forecasts of specialists, after the entry into force of the Law "Military Obligation and Military Service," which defines a list of 13 paragraphs. The Armed Forces could also be short thousands of "bayonets" as a result of the realization of the "Police" law, according to which law-enforcement bodies are permitted to replenish their ranks through the draft contingent. Does that mean that anyone who enters the military ranks anyway will have to take up the burden of the missing soldier as well?

I know firsthand that military service is in general not easy. But I write about this with particular feeling nonetheless. Particular because it lies before me—my son has just received his own notice from the military commissariat: "On the basis of the USSR Law 'Universal Military Obligation' you are called for active military service and are enlisted in command number... I order you... to appear for dispatch to assembly point at the address..." And on the other side of this first military order, received by a son who has not yet realized the grandeur of what has transpired, it is explained in a now more quiet tone that he should appear for dispatch to the troops "dressed in good clothing and footwear according to the season, and have a short haircut..."

Yes, far from everything connected with the life of our army or, as in this case, with the call-up for military service can be taken as a model worthy of great Russia. This excuse for a document here, for example, in which the military commissar gives orders in the name of a non-existent law of a non-existent USSR... But I understand that all of this is not for the fun of it, that all of this is passing, as, say, the temporary service-wide regulations are passing. I think that my suddenly grown-up son already understands this. He understands that the Fatherland is eternal, and it must be served as it is. So then, good luck, my son! Good luck, new recruits of Russia!

CIS: POLICY

General Kuznetsov on Status-of-Servicemen Law

93UM0458C Moscow KRASNAYA ZVEZDA
in Russian 16 Mar 93 p 2

[Article by KRASNAYA ZVEZDA Correspondent Ivan Ivanyuk: "The 'Military Package' of Laws, Answers, Clarifications, Consultations"]

[Text] The possibilities for social protection of servicemen have been significantly expanded and new approaches for their financial support are contained in the Law "On the Status of Servicemen". You could only dream about many benefits two-three years ago. Meanwhile, our readers in their letters request that we specify the amounts, time periods, and payment procedures. Right now we can do that on some issues.

On 9 March, the Russian Federation Minister of Defense signed Order No. 115 "On Monetary Payments to Servicemen and to Individuals Who Have Been Released From Military Service in Accordance with the Russian Federation Law 'On the Status of Servicemen'".

The editorial staff requested that Main Military Budget and Finance Directorate First Deputy Chief Major-General Vasilij Kuznetsov comment on the primary provisions of this document and on KRASNAYA ZVEZDA readers' letters on the issues of monetary payments.

Military service, as a rule, entails the frequent change of the place of residence and it is always difficult to make oneself at home in a new place. Can we count on assistance in the form of loans, desirably with low interest, when moving to a new location?

Senior Lieutenant V. Ivanov

In accordance with the order, the issuance of interest-free loans based upon the requests of officers, army and navy warrant officers, extended service servicemen, female servicemen and servicemen who are serving on contract has been provided for at the initial acquisition of a household. It is issued in the amount of up to 12 salaries for a period of up to three years. The procedures for issuance and accounting of the interest-free loans is regulated by a special instruction.

Who can take advantage of a loan? First of all, graduates of military educational institutions during the course of the three months from the moment of assignment to a military position. This right has been granted to those who have been assigned to a position during the conclusion of the first military service contract for a period of five years or more. Finally, the order provides the right to assistance to young people. In the process, terms have been stipulated: during the course of the three months after conclusion of the first marriage. I stress—first marriage.

To obtain loans, servicemen submit a request in which they indicate the amount of the required loan and the time period of its repayment. Incidentally, it must be conducted monthly in various amounts while considering the term for which the loan has been issued. An appropriate entry is made in a serviceman's record of service book upon his departure for another military unit.

This situation can also arise: A serviceman who has obtained a loan is released from military service before it has been repaid. In these cases, the amount that is subject to repayment is withheld from the monetary salary that is calculated upon release. If it is small and does not pay off the indebtedness, the money is collected in a compulsory manner based on the executive endorsements of organs that carry out notary actions.

I became ill during compulsory service. After undergoing a military-medical board, I am going on sick leave. Can I be rendered material assistance?

Sergeant G. Petrov

If a compulsory service serviceman is granted sick leave, he is paid a lump-sum grant in the amount of his salary. Furthermore, he is paid a grant in the amount of four minimum salaries that have been prescribed on the day that leave was granted as a subsidy for treatment. Right now this minimum has been determined to be 2,250 rubles.

Additional material assistance has also been established for cadets of military educational institutions of professional education and for servicemen who are performing military service based upon conscription. Upon departure on leave, they are issued a lump-sum grant in the amount of one salary. Cadets who are army and navy warrant officers and extended service servicemen are an exception. Let's also make this important detail more precise: the grant that is granted upon completion of each year of study is issued to cadets upon their departure on leave.

I have been assigned to a higher position and I had to change my place of residence. Will the expenditures for the movement of my family be compensated?

Major. I Zalesov

A promotion grant in the amount of two salaries to the serviceman himself and half of the salary to each family member is paid upon a serviceman's assignment to a position and his transfer to a military unit if that is associated with the actual movement from one populated area to another. The fact of the change of place of residence of the serviceman and his family members is confirmed by the release from the former place of residence and the residence permit for the new place of residence.

This standard based on the new order is extended to officers, army and navy warrant officers, extended service servicemen, female servicemen and to servicemen who are serving on contract.

I will soon have to be released into the reserve for age. What lump-sum grant can I count on if the total duration of my military service is more than 20 years?

Captain M. Zaytsev

Since 1 January 1993 upon release from military service, an officer, who has a total duration of service of more than 20 years, receives an exit bonus in the amount of 20 monetary salaries. The amount of this bonus is increased by two salaries for servicemen who have been decorated with a state award during the military service period.

This is a response to a specific question and now a bit of commentary. First of all, the limits of the exit bonus have been determined for servicemen depending on the

duration of service and the reasons for release into the reserve and into retirement. The bonus is issued to officers, army and navy warrant officers, extended service servicemen, female servicemen and servicemen who are performing military service on contract in the new amounts upon release from military service upon reaching the maximum age for military service, health reasons, or as a result of organizational staff measures. If there are other reasons for release, the payment standards that were in force prior to adoption of the law are retained.

The following relationship exists between the term of service and the amount of the exit bonus: with less than 10 years duration of military service—five monetary salaries; 10-15 years—10 monetary salaries; and 15-20 years—15 monetary salaries. I have already cited the maximum amount.

I think that this "starting" amount will help to begin life in a new capacity without at first fearing for your financial well-being. In any case, this is social protection.

Recalculations based upon a previously paid exit bonus will be done for servicemen who have been excluded from military unit rolls as a result of release after 31 December 1992.

I have a total of 15 years service but I have been forced to be released into the reserve for health reasons. Can I count on a pension?

Senior Warrant Officer A. Khmelevskiy

No, you can't count on a pension but you will be paid a social grant during the course of five years. The calculation is as follows: for 15 years service—40% of the amount of the salary for military position and the salary for military rank. For each year over 15 years—3% of the amount of the indicated monetary salary.

I will be facing release from military service and I have less than 15 years of service. Will I be paid a pension or a grant?

Senior Lieutenant V. Kozlov

If the total duration of military service is less than 15 years, an officer is paid a salary for military rank for a year.

In conclusion, I want to say that other documents that make the primary provisions of the Russian Federation Law "On the Status of Servicemen" more specific will pass through the stage of coordination and will receive the right to life in the near future.

CIS: STRATEGIC DETERRENT FORCES

Strategic Missile Troops Expand Recruiting

Recruiting Program Explained

93UM0533A Moscow KRASNAYA ZVEZDA in Russian
22 Apr 93 p 1

[Editorial: "The Service Needs Advertisement, Too!"]

[Text] On 17 March of this year, KRASNAYA ZVEZDA published the article "The Market Is the Market: It Is Time for the Army To Get Used to the Word 'Advertisement'." It posed the question about the need to advertise the Army as a state institution as a whole, to advertise military service, military educational institutions... And the conclusion was made that if the Army, naturally with the assistance of the state, does not undertake its own advertising, no one will do so for it.

Of course, one can react to this problem differently. Some believe that the rating of our armed forces is sufficiently high, and they do not need advertisement. But the facts indicate differently. Competition for military educational institutions is dropping, there is a personnel shortage in the troops, and young men who could enroll in a school or serve under contract do not always know what specifically they can count on, what specialty they will be given, how much they will earn... All this indicates that we need to publicize in market conditions the most attractive features of service in the Army.

Perhaps the Strategic Missile Troops understood this more quickly than the others. The commander in chief of the Strategic Missile Troops, Colonel-General Igor Sergeyev, and his deputies fervently supported the idea proposed by KRASNAYA ZVEZDA of a direct advertisement for the Missile Troops. And not because things are any worse here than in other branches of the armed forces. They are simply demonstrating concern for the future of the Strategic Missile Troops.

Of course, we do not at all think that individual advertisements will solve all the problems. This is new to all of us, and we still have to study it seriously.

In the future, we plan to publish similar advertisement pages for other branches and arms of the armed forces. We hope that they will be used to publicize military service and for military-patriotic education at military commissariats, schools, vocational-technical schools, institutes, and defense organizations and that they will prove useful to all those who are involved in one way or another with preparing young people for service and also to the young people themselves who are choosing their career.

We would be pleased to receive responses to our trial advertisement, advice, and suggestions about how to run it more effectively on the pages of KRASNAYA ZVEZDA.

So, look at page two.

Ads Display Benefits, How To Apply

93UM0533B Moscow KRASNAYA ZVEZDA
in Russian 22 Apr 93 p 2

[Full-page advertisement directed at possible recruits. "The Missile Troops Make the Offer. You Make the Choice."]

[Text] If you are young and feel able to achieve more, know that the Strategic Missile Troops are ready to help you.

The Strategic Missile Troops are the youngest and most promising branch of the armed forces.

The Strategic Missile Troops are always at constant combat readiness, ensuring global political stability.

The Strategic Missile Troops are youth. More than half of the missilemen are officers and warrant officers under 30 years of age.

The Strategic Missile Troops are at the source of the domestic space program. Missilemen sent Yuriy Gagarin, the first satellite, and the "lunar vehicles" into flight... Today, too, ballistic missiles are carrying peacetime satellites into orbit.

The Strategic Missile Troops were created by the scientists and designers known throughout the world: Sergey Korolev, Yuliy Khariton, Mikhail Yangel... Outstanding military commanders have lead the forces, one of the most famous being the first commander in chief of the Strategic Missile Troops, Mitrofan Nedelin.

In the Strategic Missile Troops you will have the opportunity:

- to choose any of 2,000 specialties;
- to work on equipment that is unlike any in the world
- to ensure for yourself rapid growth in the service.
- to achieve stable material conditions;
- to live in a major administrative center or on a cozy missile installation where everything is nearby—wife's job, kindergarten, school, officers' club, garden plot, mushrooms, and fishing;
- to receive free medical services;
- to take vacations with your family at sanatoria, resorts, and tourist facilities located in the most picturesque spots of the central area of Russia and the southern part of the country.

Still have not made up your mind? Then here are a few more arguments.

A graduation diploma from a missile academy or school is rated higher than a diploma from any other military educational institution. Cybernetics, radio engineering,

mechanics, metrology, ballistics—outside of competition altogether. And only in the Strategic Missile Troops can you receive such unique specialties as senior driver-mechanic of multiple-axle motor vehicles or master of modern electric power plants or radio and landline communications

The work of an engineer in the rank of senior lieutenant (as of the end of March) was assessed in this way:

- base pay for military rank—6,000 rubles [R].
- base pay for position—R15,000;
- additional pay of R2,100 for time in service, R3,750 for special duty conditions, R750 for a 1st class specialty rating, R2,250 for duty at a remote area, and R1,500 for duty in individual territories

Counting food rations, this comes to R37,950 per month

In addition, annually there is a lump-sum bonus of R42,000, material assistance of R21,000, and clothing and related gear worth R32,909. The fare for an officer and all his family members is paid in full when going on and returning from leave. The payment of municipal services is decreased by 50 percent. Financial assistance for construction (purchase) of individual residential buildings (cooperative apartments) is free of charge

Effective 1 April, pay for position is increased 1.9-fold. Pay for military rank and the size of the lump-sum bonus have been brought in line with the norms specified by the Law on Status of Servicemen

For those concluding a contract voluntarily, the following is guaranteed

- minimum monthly pay and allowances of up to R33,000 upon joining the service;
- a free clothing allowance in the amount of about R30,000;
- free monthly food rations in the amount of over R6,000;
- free travel on leave by rail, air, and other modes of transportation to any destination in Russia and countries of the Commonwealth;
- annual regular leave of 30 to 45 days, depending on years of service, not counting travel time to and from place of leave;
- guaranteed pension after 20 years of service;
- billeting in a well-equipped dormitory, and upon extension of contract—in a separate apartment;
- the opportunity to study at correspondence or evening civilian higher and secondary institutions;
- a regulated 8-hour work day and a 5-day work week

Now, soberly assess your capabilities and think about what suits you best. You can end up in missile units standing alert duty, subunits that repair and service equipment and armament, scientific research institutes, training areas, repair plants, and arsenals.

If you have a secondary education and intend to make military service a career, take a pen and select the address of a military educational institution:

- Military Academy imeni F.E. Dzerzhinskiy, 103074, Moscow, K-74, t. 2983909.
- Rostov Higher Military Engineering Command School of the Missile Troops, 344027, Rostov-on-Don, 27.
- Serpukhov Higher Military Engineering Command School of the Missile Troops, 142202, Serpukhov-2, Moscow Oblast.
- Perm Higher Military Engineering Command School of the Missile Troops, 614015, Perm, 15.
- Krasnodar Higher Military Engineering Command School of the Missile Troops, 350090, Krasnodar, 90.
- Stavropol Higher Military Engineering School of Communications, 355028, Stavropol, 28.

If you want to receive the specialty of mechanic-driver of multiple-axle motor vehicles, write to the following address:

Commander, Military Unit 75376, Kapustin Yar, Astrakhan Oblast, 416500.

Males 18 to 40 years of age and females 20 to 40 years of age are being accepted for military service under contract for the positions of soldier, noncommissioned officer [NCO], and ranking NCO.

The screening of candidates for acceptance for military service under contract is done:

—among servicemen —by the command of military units.

—among conscripts, persons subject to military service obligation, and women—by military commissariats based on requests by military unit commanders

Military commissariats are also tasked with determining the fitness of civilians for military service for their chosen specialty, completing the necessary documents and sending the candidates to military units for determining military service

The contract is concluded between the unit commander and the person being accepted into the service

The first contract is concluded for three years. A contract for a shorter term may be concluded with servicemen performing military service under a call-up provided that the total length of military service under the call-up and the first contract is at least three years.

Subsequently, contracts may be concluded for 3, 5, or 10 years.

If you still have any questions, call one of the following numbers in Moscow:

- (095) 598-72-09 (recruitment into schools)
- (095) 598-73-63 (call-up, recruitment under contract)
- (095) 598-71-84 (recruitment to warrant officer school, senior mechanic-driver school)
- (095) 148-84-33 (job or duty placement at repair plants and arsenals)

We will gladly answer your questions and help *you* select the job that most fully corresponds to your interests and abilities.

Call us!

The Missile Troops—prestigious and reliable!

CIS: GROUND TROOPS**Specifications, Performance of 'Buk-M1' SAM**

93UM0446B Moscow VOYENNY VESTNIK in Russian No 12, Dec 92 (signed to press 20 Nov 92) p 96

[Advertisement: "Basic Specifications and Performance Characteristics of 'Buk-M1' SAM"]

[Text]

Basic Specifications and Performance Characteristics of 'Buk-M1' SAM

Type of targets to be destroyed		Aircraft, helicopters, cruise missiles
Impact zone, km	By range	3-32
	By altitude	0.015-22
	By course profile	22
Speed of targets to be destroyed, m/s		up to 830
Kill probability with one missile	Aircraft	0.6-0.9
	Helicopter	0.3-0.7
	Cruise missile	0.4
Reaction time, seconds		26
Jamming protection	Against active noise jamming, watts/MHz	240-330
	Against passive jamming, packets per 100 meters	up to 3
Channel capacity	Against target	6 (battalion)
	Against missile	up to 3 for each target
Missile guidance		Combination (inertial, semiactive homing)
Weight, kg	Missile	685
	Warhead	70
Number of missiles on a launcher		4
Missile flight speed, m/s		850
Setting-up and shutting-down time, min		5

To contact suppliers, call tel. (095) 296-79-39.

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Fortified Areas: Lessons and Conclusion

93UM0446A Moscow VOYENNY VESTNIK in Russian No 12, Dec 92 (signed to press 20 Nov 92) pp 73-77

[Article by Col V. Runov: "Fortified Areas: Lessons and Conclusions (From Foreign Experience of Combat Use of Fortified Areas)"]

[Text] Permanent readers are already familiar with the heading under which this material is printed. For almost two years the journal has been carrying on a conversation devoted to fortified areas, the history of their creation and combat employment, and talking in detail about today's problems of their garrisons, technical condition, and maintaining combat installations. This article deals with fortified areas of foreign states.

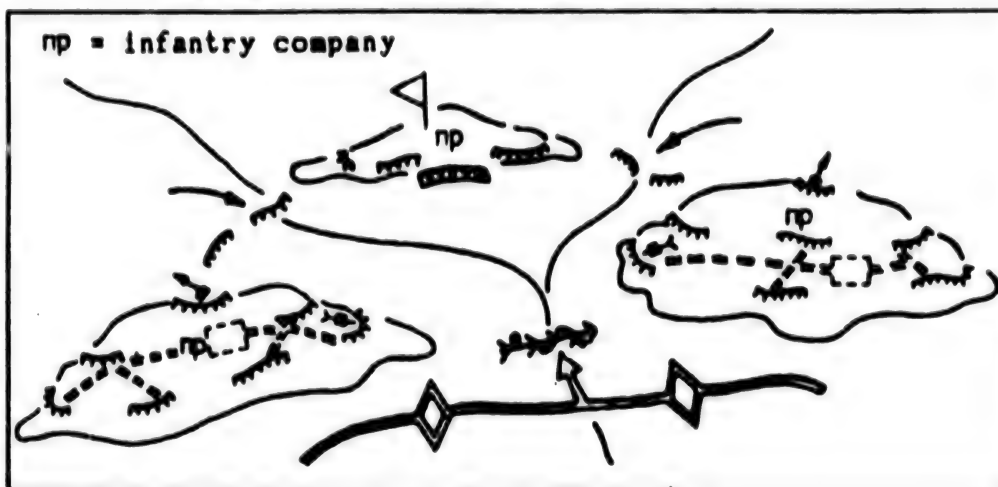
World War II provides a whole series of examples of using fortified areas to repel enemy aggression directly at the line of the state border. However, on the whole, not

much practical experience was amassed during its entire period. As was noted in previous articles, by the start of combat operations, Soviet fortified areas were unprepared for them and did not play any significant role at all in delaying the tempo of the German offensive. The attacking troops simply outflanked the French fortifications of the Maginot Line from the north.

Fortified areas gave a somewhat better account of themselves in Korea (1950-1953). With the sides' shift to the defense on the lines of the 38th parallel, units and formations of the Korean People's Army actively used fortifications. Their basis at that time was strongpoints on dominant heights and developed networks of trenches and tunnels. The latter essentially were permanent fortifications and served to accommodate weapons and shelter combat equipment and personnel.

The stability of a defense was increased by the tiered arrangement of trenches, the deep laying of tunnels, and creation of a multilayered fire plan. The defense was structured according to a single plan, and its elements were closely coordinated. In a battalion fortified area (see Diagram 1), for example, about 5 km of trenches and 2-3 km of communication trenches were dug, up to 1 km

Diagram 1. Fortified Area of North Korean Troops in 1951-1953



of underground tunnels were prepared, and 10-15 earth-and-timber emplacements were created. The enemy was unable to seize such an area even with a 4-5:1 superiority in forces. We would add that the tunnels withstood strikes by 500-kg bombs and protected the defenders from napalm.

On the eve of the Arab-Israeli War of 1956, the military leadership of the Egyptian forces decided to reinforce the defenses on the Sinai Peninsula. To do this, fortified areas were created on the central and maritime axes. The fortified area in the vicinity of Rafah included 18 separate company and platoon strongpoints, artillery positions, and obstacles, and was located 1.5-3 km from the border. Most of the strongpoints were prepared for all-round defense, and those that were situated on likely avenues of tank approach were also prepared as antitank strongpoints. Indirect artillery positions were prepared 3-4 km from the forwardmost defensive positions.

The Egyptian side planned to bring effective fire onto the enemy by concentrated and barrage artillery fire, antitank weapons, small arms, and by using minefields. However, the capabilities of these assets proved to be extremely insufficient due to their small numbers.

Thus, artillery with a density of not more than two pieces per kilometer of frontage could engage the attacking forces only on one sector of concentrated fire and on one line of barrage fire. Antitank fire was prepared only against individual axes with a maximum density of one gun per kilometer of frontage. Organic and attached antitank weapons were used to create antitank strongpoints. They included two or three Valentine self-propelled guns, three or four 57-mm antitank guns, and five or six antitank rifles.

On individual axes, usually along roads, groups of antitank mines were set up. Their overall density did not exceed 30-50 mines per kilometer of terrain suitable for

tanks. In addition, part of the artillery intended for destroying tanks penetrating deep into the defense was withdrawn for direct firing, forming another antitank strongpoint. The total depth of the antitank defense was 4-5 km. This was clearly not enough to hold back the large advancing masses of infantry and tanks, which was also confirmed by subsequent events.

On 29 October 1956, the Israeli troops suddenly began an offensive. The 27th Armored Brigade, which rushed to capture Rafah from the north, was missing only three tanks and four armored personnel carriers after the fighting. Troop losses to the south were even less. Later on, the fortified area defense was reduced to stubborn holding of individual strongpoints. Garrisons isolated from one another defended them, virtually without any assistance or control on the part of the senior command. As a result, they halted resistance and surrendered by the end of 30 October.

They had a different approach to fortified areas in Israel. Since better results of their use had been achieved here, let us dwell in greater detail on the events of 1973. Having seized part of the Arab territory in 1967, Israel sought in every way possible to fortify its new borders. Unable to keep a significant number of troops in these regions on a permanent basis, the Israeli command authorities decided to fortify the captured lines to the maximum extent. Comprehensive systems of strongpoints joined into fortified areas had been created along the east bank of the Suez Canal and on the eastern slopes of the Golan Heights already by the fall of 1973.

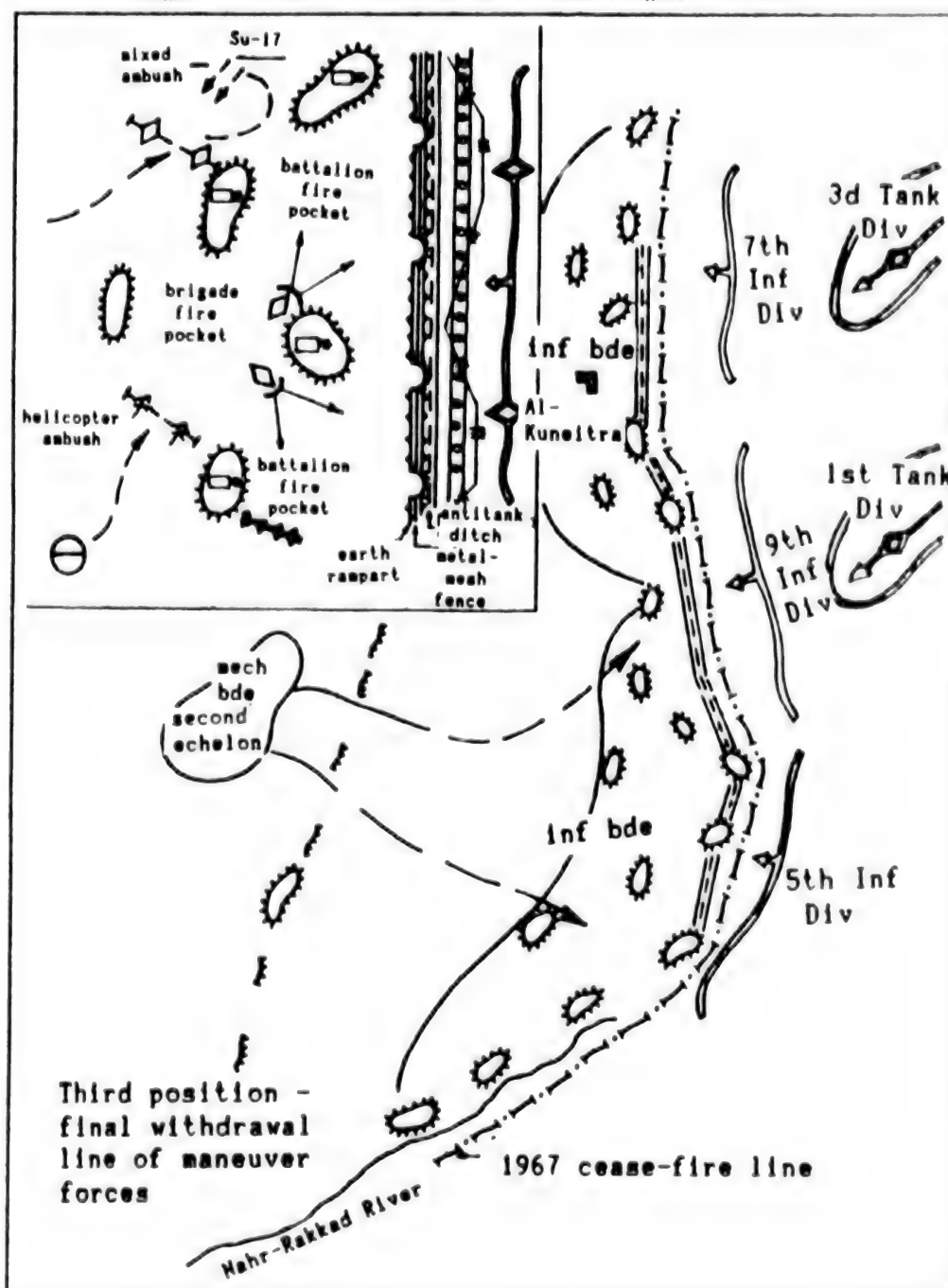
In particular, 72 strongpoints comprised the basis of fortified areas on the Golan Heights. As a rule, they were situated on hills and covered all avenues accessible for an enemy tank advance (see Diagram 2). The strongpoints were garrisons consisting of infantry companies or platoons reinforced with tanks, artillery, and antitank weapons. They were given the following tasks: determine the moment war started; disclose enemy groupings and

main axes of advance; inflict the maximum possible losses on advancing troops; and, most important, gain the time necessary for the second echelon to take up a mobile defense and for the mobilization, advance, and deployment of reserves from the depth.

The strongpoints were arranged in two lines 3-4 km apart. They were capable of an all-round defense and

had a multitiered disposition of weapons. Permanent fortifications with installed guns, mortars, and machineguns in them were located in the depth. The density of these fortifications was at least three or four per kilometer of strongpoint frontage. Preparation of the positions and stocks of ammunition, food, water, and fuel enabled the garrisons to conduct autonomous combat operations for one month.

Diagram 2. Israeli Fortified Area on the Golan Heights in October 1973



Minefields were placed in the gaps and on the most likely avenues of an enemy advance, and earthen ramparts were built. The disposition of the defense made it easy to create fire pockets, and with the approach of field reinforcements—ambushes. The forwardmost defensive positions were supported by a solid line of artificial obstacles, the basis of which was an antitank ditch 45 km long. The ditch was 4-5 meters wide at the top, 3.5-4 meters wide at the bottom, and 2.5 meters deep. The ground removed when it was being dug formed on the side of the defenders a rampart about 3 meters high and more than 4 meters wide at the base. Every 150-200 meters there were platforms prepared on it for firing from tanks and antitank weapons that maneuvered freely under cover of the embankment. A three-meter metal-mesh fence was installed on the ridge. It became a serious obstacle for shaped-charge grenades and projectiles and enemy ground reconnaissance. Minefields and multiple rows of barbed wire entanglements were set up between the ditch and the strongpoints. The total depth of the artificial obstacles in front of the main defensive zone on the Golan Heights reached 500-1000 meters.

Units of the second echelon and reserve of the formations located at the permanent deployment locations at a distance of 20-50 km were intended for field reinforcement of the fortified areas. They were to enter battle on the second to fourth days after the war started. Carefully prepared and based on cooperation between the fortified areas and the maneuver forces, such a defense proved its worth in practice.

Fire preparation for the assault began at 1400 hours on 6 October. Eighty Syrian aircraft attacked the entire depth of the battle formation of the Israeli formations. They were relieved by artillery fire. Artillery density was as much as 85 guns and mortars per kilometer of breakthrough sector frontage. Artillery preparation lasting a total of 58 minutes included four bombardments. The first (16 minutes) was against the nearest reserves, command and control posts, and artillery batteries of the defending forces. The second (20 minutes) was against strongpoints at the forwardmost defensive positions. The third (2 minutes) was against targets of the first bombardment. The fourth (20 minutes) was against the forwardmost defensive positions again. An overlapping bombardment (10 minutes) was simultaneously conducted against artillery batteries that survived. However, they were unable to achieve the desired results: 90 percent of the permanent defensive fortifications retained their war-fighting capability.

The special assault groups went over to the offensive first. During the period of fire preparation for the assault, they were to make lanes in the minefields of the defending forces, create passages across the ditch, and support the advance and deployment of the main body. But they, too, did not operate effectively enough. The linear charges were towed a distance of 3-4 km over broken terrain by tanks and were unusable. They had to make lanes using a KMT-5 [tank-mounted mine-sweeper], and then widen them under fire by hand.

There were just as many difficulties in negotiating the antitank ditch. Aimed fire by antitank weapons of the defending side hindered the bridgelayers in installing bridge girders. They were laid in haste, carelessly, slanted and twisted, and could not be used for crossing equipment. In order somehow to correct the situation, the Syrian command authorities decided to prepare passages using bulldozers and sapper subunits. They did not finish the work until 2200 hours. As a result, they were able to create 12 lanes and passages in the minefields and across the antitank ditch.

The massing and extended stay (about seven hours) of the attacking forces within range of enemy artillery and antitank fire resulted in considerable losses. The 33d Motorized Infantry Brigade, which was advancing in first echelon of the Syrian 9th Infantry Division, lost 18 tanks (41 percent of the total number of tanks) before it reached the final coordination line. Losses in other first-echelon brigades were not much less. This led to the premature commitment to battle of the division second echelons—tank brigades—immediately beyond the antitank pit. This was accomplished in an unplanned, unorganized manner, at night, on difficult terrain, and under aimed fire from well-fortified positions. By the time they reached the first position of the defending forces, the Syrian brigades had lost from 20 to 45 percent of their combat vehicles.

Subsequently, the Israeli troops opposed the enemy with the tactic of fire pockets. They were used most effectively where the terrain made it possible to hold key strongpoints with infantry forces and created favorable conditions for broad maneuver by tank subunits. Very significant in this respect are the tactics used by the commander of the northern "Ugda" south of Al-Kuneitra. The Syrian troops attacking here ended up in a battalion fire pocket when still fighting for the first position. To draw the attackers into the zone of prepared high-density antitank fire, primarily, the Israelis executed a preplanned withdrawal of subunits from the forwardmost defensive positions. Pursuing them, the Syrian units ended up in the crossfire of strongpoints of the first and second lines.

As the Syrian troops advanced into the depth of the defense, they ended up in deeper fire pockets. The defenders pulled back individual subunits to switch positions (behind ramparts) and moved up the brigade tank reserves to lines of fire positions on the flanks of the penetration sectors. The maneuver was combined with stubborn defense of the most important strongpoints on the first and second positions. The subunits that had penetrated were destroyed in a short period of time by preplanned crossfire by artillery, tanks, and antitank weapons from various directions. For example, the 211th Tank Battalion, 43d Brigade of Syria, was completely destroyed in such a fire pocket on the night of 6-7 October south of Al-Kuneitra in just 20 minutes.

Fire ambushes became an equally effective method of combating an advancing enemy within a fortified area.

These included tank, helicopter, and mixed air-ground ambushes. They were conducted by platoon- to company-size forces, most often on the flanks of a penetration sector at an angle to the direction of the enemy's advance in the rear of the first and second positions or in the space between the positions.

Ambushes by tank platoons and companies, reinforced with several recoilless rifle crews or antitank guided missiles [ATGM's], were usually set up near the strong-points on the paths of advance and deployment of enemy second echelons and reserves. Combining them with the elements of the fortified areas proved to be quite effective. Thus, on 7 October, the Israelis destroyed about 40 percent of the armored equipment of the Syrian Army's 51st Separate Tank Brigade with fire from several tank ambushes located to the south and west of Al-Hushniya.

Helicopter ambushes were used primarily in the space between positions and on the flanks of open terrain, where hidden positioning of other weapons in advance could not remain unnoticed by the enemy. Helicopters were situated in shelters 5-6 km from the ambush site. At the necessary moment, using terrain irregularities, they moved up to the staging sites at extremely low altitudes and from an altitude of 25-30 meters launched ATGM's. After carrying out the combat mission, they also returned secretly to their previous position or relocated to a new basing area, replenished ammunition, and prepared for the next sortie.

Mixed air-ground fire ambushes operated both near the forwardmost defensive positions and in the depth and on the flanks of fortified areas. Depending on their composition, they not only forced the enemy to decrease his rate of advance but also sought to defeat his subunits and even units. In particular, on 8 October, a tank battalion of the 188th Armored Brigade of the Israeli Armed Forces, reinforced by an ATGM battery, in coordination with a squadron of Skyhawk ground-attack aircraft, completely routed the 81st Tank Brigade of Syria's 3d Tank Division in a fast-moving fire ambush.

Ambush subunits set fire to the lead and trailing vehicles from a distance of 1.5-2 km, and the aircraft that soon attacked destroyed the center part of the advancing column. Then the tanks and ATGM's opened heavy fire from the ambush against the surviving and maneuvering targets, and the aircraft blocked their exit from the kill zone of the ground weapons. Moral tension was so high that many Syrian crews abandoned perfectly good tanks and tried to find safety in terrain irregularities.

In summarizing the above, it must be noted that in October 1973, Israeli subunits which were defending in the fortified area on the Golan Heights fully executed the mission assigned them in the most difficult initial period of the war. Syrian troops never were able to realize the 8- to 12-fold superiority in forces and assets and accomplish the immediate missions (2-3 hours after the start of the offensive) assigned to the first-echelon formations of the army. The presence of impregnable fortifications,

barriers and obstacles that were difficult to cross, and operations by ambushes within the fortified area and on the approaches to it—all this was the cause of the heavy losses and the unsuccessful offensive by Syrian troops. The experience amassed in using border fortified areas in the Middle East has not lost its significance. I think that fortified areas also will find application in the future—in possible future armed conflicts.

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Specifications of RKhM-2S Chemical Reconnaissance Vehicle

93UM0545B Moscow VOYENNY VESTNIK
in Russian No 2, Feb 93 p C4

[Unattributed article: "RKhM-2S Chemical Reconnaissance Vehicle"]

[Text]

Specifications	
Special equipment	
Instruments	
chemical reconnaissance	VPKhR, PPKhR, GSA-12
radiation reconnaissance	DP-3B, DP-5A
radiation and chemical reconnaissance	PRKhR
biological reconnaissance	ASP
Kits	
sample taking	KPO-1
marking signs	KZO-2
Radio communications equipment	R-123M, R-124
Base chassis	GT-MU tracked small armored combination mover-carrier
Speed (maximum), km/hr	
over highway	55
afloat	6
conducting radiation reconnaissance	30
conducting chemical reconnaissance	5
Gamma radiation reduction ratio	2.6-4
Full weight, t	5.9
Armament	RPG-18 grenade launcher, F-1 hand grenades
Crew size	4

The RKhM-2S is designed for radiation, chemical, and biological reconnaissance in the event of employment of weapons of mass destruction in regions with a predominance of low temperatures. It can also be used for a similar purpose at emergency enterprises of the chemical, atomic, and microbiological industry.

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Specifications of 2S19 152-mm SP Howitzer

93UM0545A Moscow VOYENNY VESTNIK
in Russian No 2, Feb 93 p C3

[Unattributed article: "2S19 (MSTA-S) 152-mm Self-Propelled Howitzer"]

[Text]

Specifications	
Armament	
152-mm gun-howitzer:	
Maximum range of fire, km	24.7
Laying angles, degrees:	
horizontal	360
vertical	from 4 to 68
Rate of fire, rounds per minute	50
Antiaircraft mount - 12.7-mm all-purpose NSVT machinegun:	
Range of aimed fire, m	2000
Rate of fire, rounds per minute	700-800
Basic load, rounds	300
Engine	multifuel, 780-hp (573.5 kW) diesel
Range, km	500
Top speed, km/hr	61
Deployed weight, t	42
Time required for switching from traveling to combat configuration, minutes	1-2
Crew size	5

The 2S19 152-mm self-propelled howitzer is designed for destroying tactical nuclear weapons, artillery and mortar batteries, tanks and other armored equipment, antitank armament, personnel, command and control facilities, and fortifications.

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5.45 Bullet: 'Myths and Realities'

93UM0506B Moscow TEKHNIKA I VOORUZHENIYE
in Russian No 2, Feb 93 pp 34-35

[Article by V. Dvoryaninov, candidate of technical sciences, and Lieutenant Colonel S. Deryugin, under rubric: "Status. Problems. Prospects"; excerpts from foreign publications are used in the article]

[Text] There are different versions about the 5.45-mm small arms system we adopted in 1974. The most prevalent one is that the 5.45-mm bullet was designed with a shifted center of gravity and because of this it not only somersaults within an obstacle, but also breaks into small fragments involving guaranteed destruction

regardless of where it hits. To counterbalance this, an opinion was expressed about the cartridge's weakness and insufficient penetrating power. Just what is the truth?

There were interesting evaluations of the 5.45-mm cartridge which appeared in the foreign press after the AK-74 assault rifle entered Afghanistan. The first ones were of a "sensational" nature. In particular it was reported that "for some time now Soviet troops in Afghanistan have been using bullets of an unknown type. After penetrating the body, they give off a bluish, gaseous substance. Wounds inflicted by these bullets are difficult to cure." Or "the Russians created the 5.45-mm cartridge with a poisonous bullet, since large quantities of arsenic have been discovered in its lead." Some time later there appeared a more sober assessment by specialists: "The arsenic content in Russian 5.45-mm bullets is insignificant and they cannot be viewed as poisonous. This obviously is the result of using lead from natural deposits having admixtures of arsenic."

The opinion which finally formed reduced to the following:

"In contrast to the cartridge (M193) being used in the West, the Soviet cartridge possesses all properties needed for firing from automatic weapons:

- the steel case has a precisely designed extractor groove and thick rim, by which its faultless functioning is achieved;
- compared with the Model 1943 cartridge, the 5.45-mm cartridge gives a better grouping, has one-third less weight and 40 percent less recoil force, is less sensitive to a crosswind and has greater penetrating power;
- the decrease in cartridge caliber and use of a small amount of lead in the bullet will lead to its significant economy. This is especially important, since prices on lead and copper have risen substantially in the USSR over the last ten years."

"The USSR dared to adopt a cartridge with internal ballistic indicators 10 percent lower (in pressure) than for the M193, but the bullet's design makes a very favorable impression with respect to external ballistics. There is no doubt the Soviet Army has adopted a successful cartridge capable of withstanding competition."

"The Soviet AK-74 assault rifle provides 2-2.5 times greater range of effective fire than the AK-47 and AKM. The 5.45-mm cartridge provides 100 percent kill on a full-height figure target at 330 m and 50 percent kill at 550 m. Its bullet penetrates 10 rows of 19-mm pine boards, and that of the Model 1943 7.62-mm cartridge penetrates 17 boards. The powder in the 5.45-mm cartridge is high-energy and has an almost ideal burning rate. It is better than American Olin WC 844 powder: in the M193 cartridge Russian powder of the very same weight provided a muzzle velocity of 1,040 m/sec instead of 995 m/sec with 2.5 percent less pressure."

"The uniqueness of the 5.45-mm bullet design consists of the presence of a cavity in its head. The supposition that this cavity will cause the bullet's deformation and a fragmentation effect on impact was not confirmed. It serves to shift the bullet's center of gravity to the base and probably contributes to very early loss of stability. On the average, the 5.45-mm bullet begins to turn at a depth of 7 cm but does not break up, and the bullet of the M193 cartridge does so at a depth of 12 cm. But when the M193 cartridge bullet begins to yaw, it breaks up, forming elongated fragments as a result of a break along the groove on the bullet jacket and subsequent breakup of the bullet base (there is no such groove on the 5.45-mm cartridge). This leads to the appearance of extensive wounds, reports of which began appearing with the beginning of use of the M16 rifle in the Vietnam War. The M855 bullet which replaced the M193 bullet in the U.S. Army (in 1982 with NATO standardization of the 5.56x45-mm cartridge) and which was based on the SS109 bullet also forms fragments when fired at a range of 3, 5 and 100 m."

"The AK-74's 5.45-mm bullet loses stability in tissue after traveling 7 cm, but does not break up. The wound cavity from bullets of the M193 cartridge is larger since, fired from 3 m, they rotate 90° after traveling 12 cm, are greatly flattened, and break apart along the annular groove into which the mouth of the cartridge case is crimped. The head of the M193 is preserved entire, but its base, comprising approximately 40 percent of the bullet's mass, breaks into a multitude of fragments, penetrating to a depth of up to 7 cm from the wound channel."

Comparative evaluations of American, German and Swedish manufactured NATO cartridges were made in parallel in the foreign press. In particular it was reported that the "7.62-mm bullet of the NATO cartridge produced by the United States (with tombac jacket 0.81 mm thick) travels normally for up to 16 cm, then begins to somersault without breaking up. But after traveling a distance of 20-35 cm and rotating 90°, it can greatly damage tissues. A similar bullet of the NATO 7.62x51 cartridge made in the FRG (bimetallic jacket thickness 0.51 cm [sic]) moves stably for 8 cm, then turns and breaks at the annular groove. The wound channel here is similar to that of the M193, but the size of tissue laceration increases by 60 percent. The wound channel for the Russian rifle cartridge when fired with a muzzle velocity of 850 m/sec (to 3 m) is similar to that of the American 7.62x51 cartridge."

"The 7.62-mm bullet of the West German NATO cartridge is the most destructive bullet of those described above. It can be presumed that the very same also is true of the bullet of the Swedish 7.62x51 cartridge, which causes enormously more extensive wounds than the M193."

In generalizing statements of independent western experts, it can be stated that bullets of domestic cartridges, including the 7.62-mm rifle cartridge and 5.45-mm and 7.62-mm Model 1943 automatic cartridges, do not break up even when fired point-blank from a distance of 3 m. Foreign bullets of the 5.56-mm M193 cartridge, NATO 5.56x45-mm M109 cartridge, and NATO 7.62x51-mm cartridge made in the FRG and Sweden break into fragments when fired from a distance of up to 100 m or even more, damaging tissues heavily. The similar effect of 7.62-mm bullets is substantially greater than for 5.56-mm to 5.45-mm bullets. Of course, in some cases a breakup of bullets also is possible when firing 5.45-mm cartridges point-blank or in case the bullet hits a bone, but this is the inevitable price to pay for the force of the shot necessary for a combat cartridge.

Regardless of the position of their centers of mass, all bullets begin to rotate (somersault) in tissues under the effect of the medium's resistance. How quickly this occurs depends on the rifling twist of the barrel, i.e., on the stability margin of bullets. A casualty effect approaching that of larger-caliber bullets is achieved for small-caliber bullets by reducing this stability margin (increasing the rifling twist). This forced measure of compensating for a reduction in caliber is connected with the requirement to ensure effectiveness of bullets at all ranges of combat employment. It is also necessary to take characteristics of similar weapons of the probable enemy into account.

Finally, a few words about creators of the 5.45-mm cartridge. The cartridge is the most conservative part of small arms. Its design must be carefully worked out for all parameters with consideration of the fact that it will be in service for decades. A substantial improvement in its characteristics is practically impossible in the process of mass production of cartridges, since this will require a change in the models of weapons, sights and automatic equipment being used. Some modernization is possible only on condition of full interchangeability of old and improved cartridges. On the other hand, the level of effectiveness of small arms depends to a considerable extent on cartridge characteristics, since force of recoil, flatness of trajectories, and effect on the target are contained in the cartridge.

In this connection large groups of specialists work out the design and technology of manufacturing the cartridge and what goes into it, and it is impossible to name one author of a cartridge. Nevertheless, there is a certain portion of truth to any story. In our case it is that in creation of the 5.45-mm cartridge, a woman, Lidiya Ivanovna Bulavskaya, headed the group of specialists at the leading enterprise which developed the cartridge, her work rightly was recognized by the Motherland with a high state award.

It must be noted that a deputy of the FRG Bundestag queried the FRG Minister of Defense in 1980 about the excessive casualty effect and "inhumanity" of the 5.45-mm bullets for the AK-74 assault rifle being used in

Afghanistan. To this the answer was given that the FRG Minister of Defense had no complaints about the Soviet 5.45-mm cartridge in this regard. A similar query came to the Soviet government from the International Red Cross and United Nations in 1981. Data based on results of broad comparative tests were submitted to these organizations demonstrating that the 5.45-mm bullets were somewhat inferior in casualty effect to 5.56-mm bullets of the M193 cartridge. Numerous symposia on questions of the damaging effect of small arms bullets also did not confirm the validity of demands to ban the 5.56-mm bullet of the M193 cartridge on the basis of its "inhumanity."

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MTP-A5 Armored Engineer Vehicle

93UM05064 Moscow *TEKHNIKA I VOORUZHENIYE*
in Russian No 2, Feb 93 pp 14-15

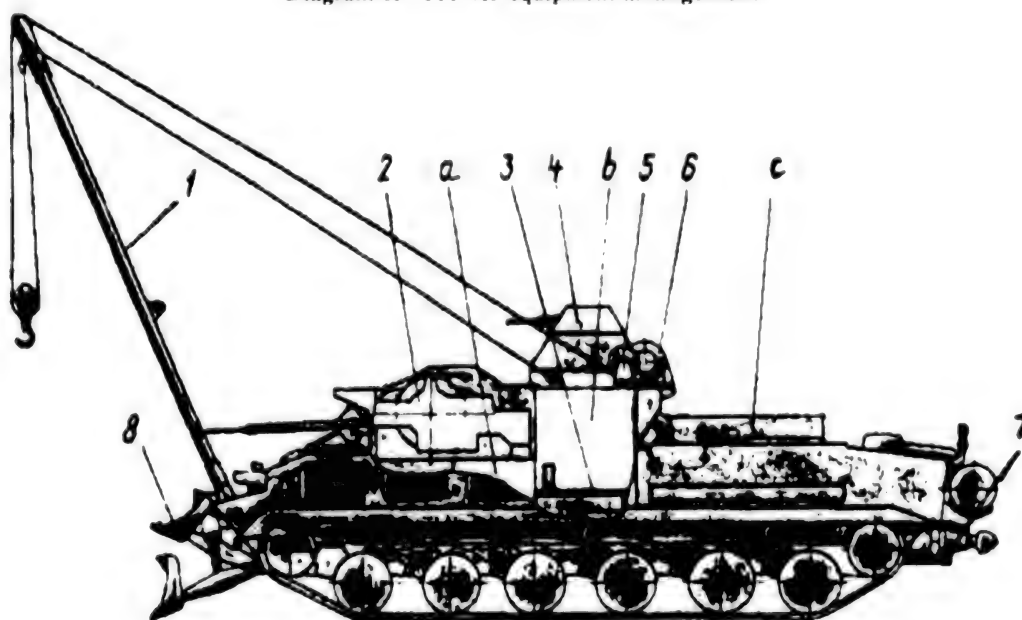
[Article by Chief Designer V. Korobkin, Lieutenant Colonel N. Kuleshov and Lieutenant Colonel S. Pyatov. "MTP-A5 Recovery Vehicle"]

[Text] The MTP-A5 was created based on the GM-355 chassis and is a means for repair and recovery of GM-352, GM-355, GM-569 and GM-579 tracked vehicles as well as ZIL-131, Ural-4320 and KamAZ-4310 vehicles.

Its hull is divided into driving, mechanic/radio operator's, work, and engine-transmission compartments [otdeleniye] and winch, fuel tank, special equipment, and tools and spare parts compartments [otsek]. The driving compartment is situated in the hull nose on the left. Controls for the base chassis, winch, dozer equipment (spade) and load-hoisting device are located here. The mechanic/radio operator's place is behind a bulkhead to the right of the driving compartment and is equipped with radio and intercom for communicating with the crew. Special-equipment hydraulic drive components and the searchlight drive lever are installed here as well.

The work compartment, which has a workbench with vise, a small locker with tools and equipment, and radiation, chemical and engineering reconnaissance instruments, is situated in the middle section of the hull. A removable ladder is used to enter the compartment. The work compartment communicates with the driving and mechanic/radio operator's compartments by a passage where additional fuel tanks and racks with spare part and accessory boxes are arranged along both sides. A load-hoisting device of the "jib crane" type and the turret unit are attached to the roof of the work compartment (in a travel position). The fitter/rigger's seat is installed on a folding platform beneath the roof and there are six vision devices in the underturret superstructure.

Diagram of MTP-A5 equipment arrangement:



Key:

1. Jib crane
2. Winch
3. Workbench with vise and locker
4. Turret unit
5. Load-hoisting equipment winch

6. Auxiliary winch
7. Pull hitch
8. Dozer blade
- a. Side compartments
- b. Work compartment
- c. Oxygen cylinder compartment

The engine-transmission compartment (engine, hydro-mechanical transmission, steering gear, final reduction gears) is situated in the rear section of the vehicle. Two fuel tanks are installed in a recess to the right of the engine, and a hydraulic drive assembly for the winches and dozer (load-hoisting) equipment as well as an oil tank with filters and manual pump are in the special-equipment compartment. A winch and its hydraulic drive motor unit are in the compartment ahead of the work compartment. A device for paying out line is located on the outside of the compartment front wall. A dozer blade is attached to the front section of the hull and a pull hitch to the rear section.

The MTP-A5 equipment set includes tool sets for the auto mechanic (electrician) and special wrenches and accessories for disassembly and assembly work. This permits repairing unserviceable equipment at the spot where it was disabled by replacing parts, assemblies and auxiliary machine units. There are sets of taps, dies, drills and files for fitter's work. Cracks in hull parts are filled in with epoxy compounds, and car repair kits are used to restore tires. Tools and accessories are laid out in special boxes. Plates are fastened to each of them as well as to workbenches and racks with a list of the equipment and spare parts stored in them.

An oxygen cylinder which supports operation of the oxy-kerosene cutter when preparing vehicles with unserviceable running gear for transportation is installed in a special compartment to the right of the engine-transmission compartment. There are 10-liter and 20-liter canisters as well as three 100-liter barrels for storing fuel and lubricants. The MTP-A5 is fueled using the MZA-3 small refueling apparatus and a hose with nozzle. Using the standard hose of the base chassis and the MZA-3 refueling hose also is permitted. The vehicle is equipped with a set of wires having special terminals and with high-pressure hoses for starting engines of tracked and wheeled equipment. A load-hoisting device in the form of a nonrotating A-shaped jib crane with a hoisting capacity of 2.5 tonnes is mounted on the vehicle. Its outreach is 2.8 m and the hook lift is 4.2 m. The crane is used in repairing vehicles as well as in loading and unloading assemblies, machine units and other property. It is transferred from a travel to a work position with the help of a special hydraulic cylinder, and the load is raised and lowered by a winch. The hoisted load is moved in the horizontal plane by turning the MTP-A5. Transportation of a hoisted load is permitted over short distances (up to 50 m). When this is done, the load is fixed by braces and a crosspiece. The jib crane is fitted with safety devices restricting the hook lift and the load on the winch line.

The main winch with a tractive force of 25 tonnes-force and with 100 m of line, which is paid out using an auxiliary winch equipped with a hydraulic drive, is used for extricating stuck equipment. The MTP-A5 has a set of tackle—tackle block, coupling shackles and links, and lines—to increase tractive force to 50 tonnes-force. The MTP-A5 can extricate stuck equipment situated at a 90°

angle to it and also can perform self-recovery. For this the dozer blade helps secure the recovery vehicle to the ground. Using the blade it is possible to prepare access routes to transportation equipment to be evacuated, fill in craters and trenches, and level off roads and other terrain sectors.

A tow bar or two tow lines are used for towing vehicles with serviceable running gear and control mechanisms. A triangular tow bar is used in moving unserviceable equipment weighing up to 35 tonnes. In a travel position it is fastened to special brackets on the rear of the MTP-A5 by easily detachable connections.

The MTP-A5 has the PNV-57YeT night vision device and RVM-2 mine detector for terrain reconnaissance and the DP-5A radiometer-geiger counter, VPKhR troop chemical reconnaissance instrument, three combined-arms protective sets and the TDK tank radiological decontamination set for partial radiological decontamination of equipment. The vehicle is equipped with entrenching tools (crowbar, shovels, saw, axe) and three OU-5 fire extinguishers.

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Maneuver of Fire and Obstacles

93UM0443A Moscow VOYENNOY VESTNIK in Russian
No 12, Dec 92 (Signed to press 19 Mar 93) pp 27-29

[Article by Col N. Zybkin and Lt-Col S. Korotkov: "Maneuver of Fire and Obstacles (On the Coordination of the Antitank Reserve and Mobile Obstacle Detachment)"]

[Text] The central problem in the tactic of joint use of the antitank reserve (Pirez) and the mobile Obstacle detachment (POZ) is how to precisely coordinate them. It is hard not to agree with this opinion, stated in the article "Hard in Training—How Will It Be in Battle?" by Lt-Col B. Feofalov.

It is true that engineer obstacles placed by a mobile obstacle detachment of themselves cannot stop a tank attack. But they acquire considerable weight if they are supplemented by fire which prevents mine-clearing work and negotiation of Obstacles. The rate of advance of the adversary immediately drops, and favorable conditions are created for his engagement.

Analysis of battles and engagements of the Great Patriotic War shows that in the defensive zone of a rifle division, the antitank artillery reserve usually assumed a battle formation in an antitank area in a likely avenue of tank approach. The principles of use of reserves changed and were adjusted as experience was acquired, and perhaps appeared in their most perfect form during the defensive period of the battle of Kursk. Since then their combat utilization has been based on rapid and flexible maneuver in accordance with the plan for the upcoming battle, worked out in detail. Thus in a rifle division the

number of axes of maneuver of an antitank reserve and mobile obstacle detachment usually did not exceed two, with four prepared deployment lines. The length of the routes of march averaged 5 to 6 km, and required about 30 minutes to cover.

As a rule the antitank detachment was assigned up to one whole combat engineer platoon with the appropriate explosives and demolitions. In a number of cases it was included in the antitank reserve. For example, the operational directive of the staff of the 1st Ukrainian Front No 0015 dated 1 May 1944 ordered that a mobile Obstacle detachment be used in direct coordination with an antitank artillery reserve. Here the POZ was put under the artillery chief for joint positioning and action with the antitank reserve.

When one is arguing the criteria for sufficiency of manpower and equipment, particularly of antitank forces, for defense in the initial period of war, it is particularly interesting to assess the specific results of combat actions in the Arab-Israeli and Iran-Iraq wars. Based on such an analysis and using computer calculations, one can conclude that under conditions of a mobile defense, the combat capabilities of a formation to fight armored targets have more than doubled. And this is due first of all to the precise coordination of the PTrez and POZ, the use of a horseshoe formation, ambushes, and extensive use of killing zones by the antitank formations.

As we know, lessons can also be learned from negative experience. In particular we note that in the majority of cases, the deployment of the PTrez lines and the mining lines of the POZ on likely avenues of tank approach were not planned ahead of time, and coordination between infantry and tank subunits and these elements of the battle formation was not always supported. As a result, it would happen that the infantry would leave its occupied positions, abandoning the antitank reserves and minefields without protection. The PTrez and POZ often would advance to their assigned lines late, and would suffer excessive losses from air strikes while still en route. This was due not only to the superficial organization of command and control, but also to the poor selection of the lines themselves. At times they were planned so far ahead of friendly troops that it was necessary to deploy under enemy fire.

The difficulty of advance of the PTrez and POZ to their designed lines as a type of maneuver was due to the extremely strict deadlines, and also to the effects of enemy fire. The war in the Persian Gulf region shows that with broad use of highly mobile tanks, IFVs and APCs, at a critical moment of the battle the defender sometimes did not have time to close a breach with reserves. Even counterattacks were paralyzed by concentrated strikes by aviation and tank fire in support of motorized infantry. At the same time, it is extremely hard to conceal the advance of PTrez and POZ (more than 20 vehicles). The purpose of the maneuver can be achieved only when the necessary measures are taken and are coordinated with one another

to assure camouflage and concealment of the movement, protection of the subunits with air defense weapons, and local security.

The actions of Lt-Col A. Skoryatin in a tactical exercise may serve as an example. Allowing for the possible enemy use of remote mining assets, combat helicopters, he approved the proposals of the chiefs of combat arms and services that a barrier team be sent to the avenue of advance of the reserves, and that it be defended by air defense weapons and aerosols. And the sortie requirement of tactical aviation allocated to the regiment was to be used during the deployment of the PTrez to battle formation, and while the POZ forces were constructing barriers at the planned lines. Here the first strike was to be delivered on the attacking tanks, and the next one (with the antitank reserve opening fire) on those approaching and flanking the obstacles. In addition, in the interests of the PTrez and POZ, maneuver of an armored group of one of the battalions against the flanks of the envisaged lines was arranged.

Under present-day conditions, the combat actions of antitank reserves and mobile barrier detachments are planned on the basis of the decision of the division (regiment) commander. This starts with preparation of the given proposals for combat use of artillery and engineer subunits and consists of defining the missions, assigning the assembly areas (of the defense), the lines of deployment (mining) and the avenues of advance in them, designation of command and control signals, and calculation of readiness deadlines.

As for the missions, they boil down first of all to destruction of tanks and other armored targets of the adversary which break through into the depth of the defense, and protection of threatened likely avenues of tank advance and of breaches opened up on flanks and boundaries. One should also mention support of the advance and deployment of the second echelon (combined-arms reserve) when delivering counterattacks, and destruction of armored targets belonging to a landed airborne or air mobile assault. Experience of local wars has also shown the advisability of using PTrez and POZ when creating killing zones for joint actions with motorized rifle and especially tank subunits.

The lines of deployment and mining are designated in the most important likely avenues of tank advance. Their quantity and relative disposition will depend on the combat mission, the conditions of the situation and the terrain. The nearest deployment line for the PTrez is assigned beyond the defensive zones of the first-echelon battalions or within their limits, 4 or 5 km from the forward edge. The next ones every 3 to 5 (1 to 3) km from one another.

Assembly areas are selected so that minimal time is spent in advancing to the planned deployment lines. Based on the experience of the Great Patriotic War and local wars, in a number of cases the PTrez should be assigned an

antitank defensive area (PRO) instead of an assembly area, for a battalion, and an antitank strong point (PTOP) for a battery. These should be prepared like a deployment line, with conduct of priority engineer tasks and disposition of subunits in a prepared battle formation. This will significantly improve the effectiveness of the antitank defense. The antitank area (antitank strong-point) is selected in the axis of the main thrust of the adversary within the bounds of the third (second) position so that there is close fire coordination with the second echelon of the division (regiment).

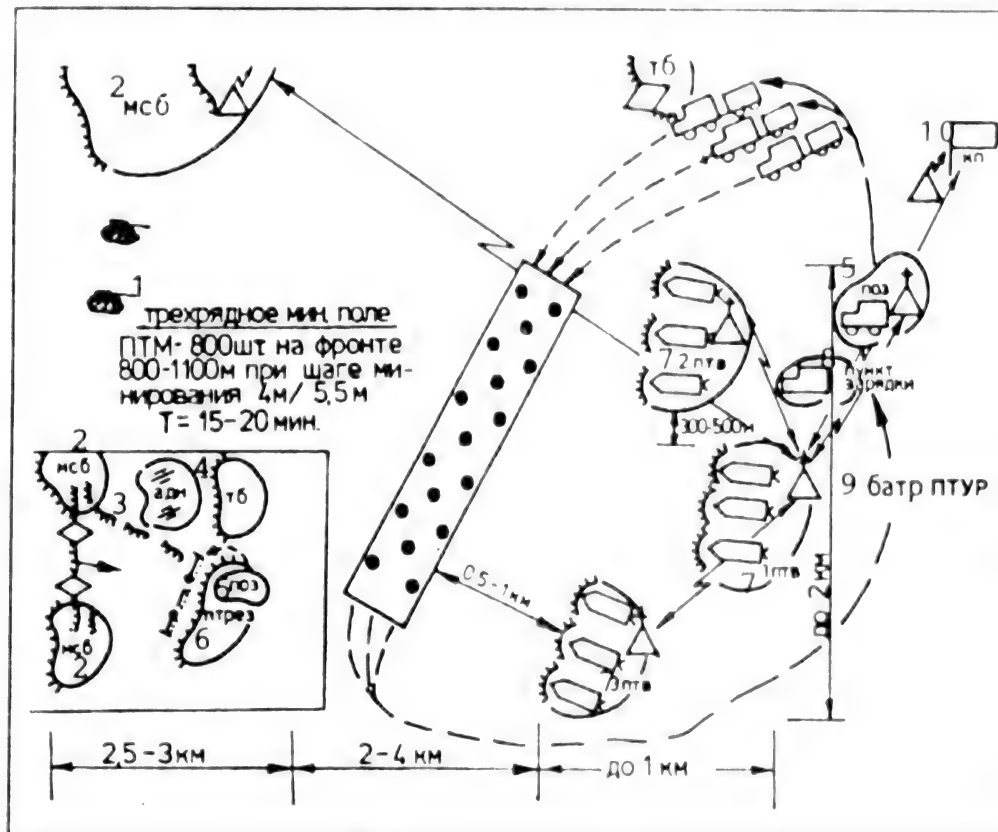
In joint actions with the PTrez, it makes sense to subordinate the POZ to the commander of the former. In this case a subunit of GMZ-2 or PMZ-3 is positioned in the rear of the battle formation of the PTrez in readiness for advance to the mining line (see diagram).

When planning maneuver of reserves, one should also allow for the following: a mobile barrier detachment

usually must travel a kilometer to a kilometer-and-a-half further than the PTrez, and this requires 3 to 4 minutes of additional time. In order to eliminate this discrepancy and assure timely deployment of the antitank reserve at the planned lines, I believe the staff and the chiefs of the combat arms and services should select a line for calling the PTrez and POZ (when enemy tanks reach this ground, the signal should be sent for advance of the antitank reserve and the barrier detachment). Naturally it will be in front of the area designated for mining and at a distance from it which will assure the safety of operations of the mine dispensers with the fire of the antitank reserve, when it has assumed battle formation.

The calling line is calculated based on the time necessary for the POZ and PTrez to advance, deploy, and mine, with allowance for the speed of the enemy tanks and the effective range of fire of the weapons of the PTrez. For

Variant of joint use of PTrez of a regiment with a POZ in a prepared battle formation



Вариант использования ПТрез полка в заранее созданном боевом порядке совместно с ПОЗ

Key:

1. Three-row minefield: antitank mines, 800 along a front of 800 to 1,100 meters with a mining interval of 4 to 5.5 meters. T = 15-20 minutes
2. Motorized rifle battalion
3. Artillery battalion

4. Tank battalion
5. POZ
6. PTrez
7. Antitank platoons
8. Loading point
9. ATGM battery
10. Command post

example, a PTrez requires 19 minutes to advance and deploy to the line, the POZ 25 minutes, the expected speed of the enemy tanks in a breakthrough of the defense is 2 km/h, the range of effective fire of the antitank weapons, based on the character of the terrain, is 2,000 meters. Then the distance of the call line from the deployment line of the PTrez will be 2.8 km (2 km:60) x25 + 2 km).

In conclusion it should be noted that the need to impart greater mobility and maneuverability to the defense has had a vital influence on the technical equipment, the increase in strength and fire power, and the tactics of operation of antitank reserves and mobile barrier detachments. I believe that combining these elements of the battle formation into a single organ under a single command will be an important advantage for the defending side, significantly improving their coordination in the combined-arms battle.

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"Giatsint" 152mm SP Gun Specifications

93UM0522B Moscow KRASNAYA ZVEZDA in Russian
13 Apr 93 p 2

[Article by KRASNAYA ZVEZDA Correspondent Colonel Vitaliy Moroz, under the rubric "Arsenal": "A Urals-Bred 'Giatsint'"]

[Text] Artillery brigades and divisions are armed the "Giatsint" 152mm self-propelled gun. The artillery system was developed by the Ural Transport Machine Building Plant production association and was placed into series production in 1976. Besides range testing, combat testing became this gun's fate in Afghanistan. It recommended itself in a very outstanding manner.

The "Giatsint's" drive train is the same as the "Akatsiya's", which was discussed in a previous article under the "Arsenal" rubric. But the gun is mounted in an entirely different way: on the rear of the chassis, in the open, without a turret. It is not difficult to surmise that such a configuration of the long-range gun permitted us to reduce the overall length of the system (it is less than a tank—8.3 meters) and to make it more suitable for transportation and safer on a march.

In position, a horizontal turn of the gun 15° in each direction is possible without moving the self-propelled gun itself. The combat load (it consists of conventional standard high-explosive fragmentation rounds) are located within the hull. Loaders feeds rounds and charges from inside the vehicle manually. An electromechanical system completes the loading cycle. The "Hyacinth's" rate of fire is higher than "Akatsiya's": 10-12 seconds are adequate to prepare to fire a round. This means that the system is capable of firing several rounds before the first one reaches the target.

Primary Tactical-Technical Specifications of the "Hyacinth" 2S5 152mm Self-Propelled Gun

Maximum firing range of a high-explosive fragmentation round, in meters	28,400
Rate of fire, in shots per minute	5-6
Angle of elevation, in degrees	
vertically	-2.5° - 57°
horizontally	+ or - 15°
Crew	5-man
Transported combat load, in projectiles	30
Speed, in kilometers per hour	60
Range based upon fuel, in kilometers	500
Weight, in kilograms	
gun in traveling configuration	28,200
projectile with a high-explosive fragmentation round	80.8
high-explosive fragmentation round	46.0

Mechanization eases and simplifies the crew's work even while utilizing munitions that are stored outside the hull.

Very few of the world's artillery systems are capable of imparting the muzzle velocity to a projectile that the 2S5 can: 942 meters per second (perhaps only the Peony 2S7 203mm self-propelled gun is higher than it). A slotted muzzle brake reduces the barrel's recoil and a collapsible base plate stabilizes the system during firing.

No more than four minutes is required to shift the gun from the traveling to the deployed configuration. If necessary, "Hyacinth" can dig a trench for itself using the built-in bulldozer equipment.

CIS: AIR, AIR DEFENSE FORCES

PVO Coping With Equipment, Maintenance Shortcomings

93UM0471A Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 1, 93 pp 32-36

[Articles prepared for publication by Col Aleksey Andreytsov and Lt Col Aleksandr Tarapatin: "On a Dead-End Road: Specific and Clearly Marked 'Ways Out of the Vicious Circle' Are Not Yet Evident"]

[Text] Our readers have apparently turned some attention to materials from a round table (No 12, 1992) of the chief engineers of air defense components. The arms and equipment operating situation has recently worsened. Armament specialists and technicians have found themselves in what might be called a vicious circle of problems: The equipment is there, it is being operated, but it is increasingly more difficult to maintain, since there are no spare parts, and the repair base is inadequate. How, at what expense, and until what time can we count on the old reserves? Will light ever filter into the pale of these

questions? Does everything depend only on the organizers of equipment and armament operation? In short, problems requiring solution are continually increasing.

It has become clear from statements by the leading specialists of the forces that they are doing everything in their power, but without the help and support of the government and the Main Armament Directorate (GUV), they will be unable to make their way out of the quagmire of severed contacts of the delivery system.

The editor's office asked all sides interested in the reliability of the armament and equipment of PVO [Air Defense] Forces to have their say on the pages of this journal.

The first to respond to the posed questions were specialists of the GUV and the military acceptance office. And this is understandable. Because, we can recall, it was precisely to them that the chief engineers of PVO components and the chief of the motor vehicle service of the PVO addressed a number of serious complaints: Equipment and armament are being delivered irregularly, deliveries of spare parts, tools and accessories have ceased altogether, and units and systems turned in for repairs are often returned to their "owners" with things still wrong. Sometimes the new equipment the leadership orders from producers gets to the forces without technical support. Making minor repairs and sending specialists into the combat units have become unprofitable to the manufacturers: They simply refuse to make repairs, or they delay solution of the problems under various excuses.

"We're Not Sitting Idly," by Colonel Sergey Ostapenko, Chief of the GUV

No matter how you look at it, the complaints against us are truly serious. We need to work together to solve all the problems. To start off, let me recall what our directorate does: It orders equipment for the ZRV [Surface-To-Air Missile Forces], develops resources, tests, perfects and modernizes them, restores and repairs warrantied and unwarrantied equipment, and replenishes outfits of spare parts, tools and accessories. These tasks are carried out directly by over 300 plants (head plants or plants at the first level of support) located in Russia, Ukraine, Lithuania, Armenia and Belarus. Smaller component parts, without which mechanisms or electric circuits will not work, come from Azerbaijan, Georgia and Moldova. Moreover we manage more than 60 acceptance points subordinated to us and almost 20 acceptance points of other clients on the territories of sovereign states. Two proving grounds were put into operation in the course of development and production of equipment (one has already been taken away by Kazakhstan). This "geography" of our forces and resources has generated a number of problems in providing equipment to the ZRV.

A decrease has occurred in the volume of deliveries, and consequently in the rate at which the forces are being refitted with modern, highly effective equipment. Today the availability of such equipment in the ZRV does not

exceed 15-30 percent of the requirements. Naturally this could not but have an effect on the quality of combat training and the combat readiness of the units in general. Losses in scientific and production potential have become evident. The possibilities of industry to mobilize in support of emergency operations have been practically destroyed. The possibilities of the system for restoring the combat readiness of equipment have worsened.

From my point of view the causes of these problems can be divided into two groups—military-political and economic.

Let me begin with the military-political. Unfortunately the agreements that have been adopted in connection with formation of the CIS do not contain the mechanism of their implementation at the level of the Ministry of Defense's client organizations on one hand and the plants, design offices and planning organs on the other. I am referring to the base of legal standards (all-union state standards, all-union standards, standards, statutes, instructions, etc.) determining the procedures by which clients of different states interact between each other and with supplying plants, property liability, pricing policy, quota-setting and material and technical support to production, the settling of mutual accounts, dispute arbitration etc.

Let me add that because of the extremely unconstructive policy of supreme state and military organs, a confrontation is occurring in the mutual relations between the former "allies." For example we have been prohibited from signing direct contracts with plants of other states because, it is said, assets of the federal budget are needed to solve the social needs of Russian plants. What are we to do? Taking care of just one CRV system requires 18 suppliers of units, blocks and individual mechanisms. However, their production is scattered over the territory of three states: Ukraine (16 suppliers), Armenia (1) and Belarus (1). Transferring the production operations to Russia would require 250 million rubles in the prices of the first quarter of 1992 just to draw up the documentation and initiate production of the articles. With good organization, this task could be carried out in 1.5 years. In this case the price of these resources will 1.5-2 times higher than that of the equipment already in place (according to 1991 norms). This means that we need a transitional period of bilateral agreements that would determine the mechanism of interaction.

As for economic causes, I would cite the absence of a coordinated price-forming system. The system differs significantly in different CIS countries, while in Armenia for example it is altogether absent, which leads to pricing "tyranny" of the monopolistic producer. The rates of growth of product prices and of indexing of money allocated for the purchase and development of equipment are inconsistent. A number of enterprises supplying component parts have been placed on the brink of bankruptcy by the decrease in volume of equipment purchases. Production volume has dropped by three or four times just at plants manufacturing articles for rockets. Moreover contracts with suppliers have been

torn up, and were the suppliers to halt production for even half a year, understandably it would become impossible to resume production, or excessive assets would be required for reconversion.

There is a minimum production volume that insures the existence of any plant. Reduction of volume below this level does not decrease outlays on purchases of armaments in proportion to the amount of the reduction, since due to certain expenses that remain constant, the price of the resources begins to grow faster than the gross production volume decreases. And because it does not enjoy the anticipated savings of assets, the plant is forced to reduce orders even more.

From my point of view, we need to stretch the stage of budget reductions by 2-3 years and carry out successful conversion. At certain enterprises where special equipment makes up less than 30 percent of the total production volume, its production has simply become unprofitable. And enterprises such as the Moscow Specialized Motor Vehicle Plant, the Astrakhan Computer Plant, the Yerevan, Baku and Kishinev microcircuit plants, and others are on the brink of failing to deliver equipment for which contracts have been signed.

Delays in forming quarterly and annual budgets are making it practically impossible for the plants to carry out quarterly planning or to sign contracts.

Because the total indebtedness of all plants (from R70 million to R350 million) makes it impossible to make effective payments primarily to component-supplying enterprises. This situation reduces their interest in military orders.

Moreover, problems have also arisen in the proving grounds, which are failing the plans for routine series testing of rockets.

Let me put it this way. We are not sitting idly. To support the ZRV we have expanded production of five different products in Russia. We are signing contracts not directly but through third organizations. We are purchasing low-priced component parts and putting off purchases of certain component devices with higher prices (KrAZ-260V tractors). While contracts used to be signed with the plants on a quarterly basis, now they are signed on an annual basis. This raises the confidence of the client and the producer that the products will be manufactured.

Still, I would like to emphasize that unless political problems are not solved at the international level, we specialists will be unable to solve ours.

"Everyone is Pulling in Different Directions, and Defense is Suffering," by Colonel Anatoliy Malnev, GUV Division Chief

The disintegration of the former Union is causing significant changes in technical support of Russian PVO Forces, because a number of enterprises are now outside Russia. The matter of settling accounts between states for repair of armament and military equipment has not

yet been resolved, which is causing a decrease in the combat readiness of PVO units and subunits.

For example MiG-25 aircraft were repaired at the aircraft repair plant in Dnepropetrovsk, but they were not returned to their "owners." A significant quantity of fuel the forces desperately need is idling in that same republic in the city of Zmeyev for the same reasons. The same pattern is observed with repaired radar equipment in Azerbaijan.

The status of the PVO armament repair base in former Central Asian republics of the Union has not yet been determined.

Here is something else that should be noted. Some types of metal, paints and varnishes used by repair enterprises have to be purchased at exchanges, where prices are significantly above wholesale.

Because fuel prices have been set free and transportation expenses have increased, sometimes it is simply impossible to send equipment out for repairs, since transport enterprises refuse to accept military shipping documents, demanding payment on the basis of clearing accounts or in cash.

Because of the planned reduction of Russian Armed Forces, a new situation is developing in technical support, including in repair of PVO equipment.

From my point of view we need to enlist civilian enterprises for the repair of armament and military equipment, as is done in other branches of the armed forces—for example, repair of aircraft engines. This is one approach to solving the problem. Another is to establish a system of agreements with the sovereign republics in which the repair base currently exists. An agreement has been signed with the Ukrainian Ministry of Defense. The details of these questions are being ironed out with Belarus and Azerbaijan.

"Things Are Critical With Equipment Support," by Colonel Nikolay Noskov, GUV Division Chief

Many surface-to-air missile systems, radar stations, PRV [air defense weapons], missile launchers and surface-to-air guided missiles have outlived their rated life and must be scrapped. The frequency and duration of idleness of faulty equipment are not decreasing, while in regard to electronic equipment they are rising. Cases of failure of warranted equipment are occurring (moreover up to 50 percent of the down time of electronic equipment totals over 5 days). The average time it takes to restore all models of armament and military equipment containing third and fourth generation components exceeds the required time by 2-5 times, while the down time of certain models is 25-30 days and more.

Why is this so? The answer is simple: The forces do not have a repair base for the new equipment. Limited deliveries of spare parts, tools and accessories by industry are having a significant influence on the down time of old equipment. This creates shortages in relation

to certain items, and increases restoration time. The required components are delivered to emplacements from bases and depots belonging to the major formations, and from the center. And in a number of the most difficult cases, the lacking spare parts, tools and accessories must be ordered directly from industry. The manufacturing time is from 1 to 6 months.

Understandably the situation is difficult, but because industry falls behind in its deliveries of spare parts, tools and accessories every year, single and group kits of spare parts, tools and accessories have to be broken up, and it is impossible to replenish them promptly. You can do without a lot of things, but you can't do without spare parts, tools and accessories. For the time being, we are getting by somehow.

Even in the past, manufacture of spare parts, tools and accessories for armament and military equipment no longer in series production was economically disadvantageous to industry. In the meantime the transition of defense sectors to cost accounting and the conversion program have injected even greater complexity into the problems of supporting operation and repair of armament and military equipment, especially old equipment. Now that business ties have been broken and materials and component parts are unavailable, a number of plants refuse to sign contracts with us to manufacture and supply spare parts, tools and accessories to the forces. They insist on barter and cash. To be honest, sometimes this kind of life simply makes us want to give up.

What do I see as the solution to the problem of maintaining technical support to PVO Forces? First and foremost, establishment of the strictest possible economization. Next, reduction of the assortment of ordered spare parts. Redistribution of spare parts, tools and accessories not only between units within major formations but also between major PVO formations. Reduction of planned deliveries and provision of scarce spare parts, tools and accessories only on the basis of special orders, and so on. But these are temporary measures. By them, we can make the drop in the level of technical support not as abrupt by relying for some time on previously stockpiled spare parts, tools and accessories.

Everyone must understand that unless we solve the economic problems and adopt political decisions at the level of parliaments and governments, and unless organizational measures are implemented in the army and in the PVO Forces, it will be impossible to solve these problems.

**"We Are 'Pro,' But It's Hard Without Support," by
Colonel Vladimir Kurichev, GUV Division Senior
Officer**

As we know, because of the disintegration of the USSR and monopolization of production, many contractors—both institutions developing armament and military equipment and suppliers of spare parts and components—have found themselves cut off from Russia. Warranted equipment supplied by manufacturing plants

located in former republics is not being restored, and armament and other equipment are not being supplied. The best-trained specialists (especially programmers) are leaving the armament and military equipment developing enterprises, and integral scientific collectives, which take decades to form, are falling apart.

These are the conditions under which those who are most concerned with supplying sophisticated equipment to the forces must work.

What are we doing, and what will we do in the future? In order to provide financing to promising scientific research and experimental design work, we are striving to shut down obsolete projects and those that have close ties with development projects outside the Russian Federation. We are working together with industrial enterprises to solve the problems of transferring orders with enterprises in sovereign republics to Russian Federation enterprises. Thus, the Apogey Production Association has already begun manufacturing a system that used to be supplied by the Razdanmash Production Association in Armenia. We are looking for the means by which to enlist state enterprises in the solution of our problems, so that they could provide assistance to the forces in restoring armament and military equipment that used to be delivered by enterprises located outside the Russian Federation.

However, all of our efforts will not produce the needed impact unless we get some support, as they say, from above.

From my point of view this would require adoption of international agreements determining the procedures of placing orders and financing deliveries of armament and military equipment to PVO Forces, their warranted and post-warranty maintenance, improvements, and assistance to the forces in setting up this equipment.

We need to resolve the issue of additional financing of "direct" orders directed at maintaining military equipment and armament in combat ready condition, and mainly, delivery of group outfits of spare parts, tools and accessories, installation of improvements, and assistance to the forces in servicing equipment and carrying out post-warranty repairs (while R235 million are needed, R75 million have been allocated).

**"More Work for Military Acceptance Points," by
Colonel Ivan Pisarev, Chief of Military Representatives**

The main purpose of military representatives is to monitor product quality and implement the necessary measures to insure quality foreseen by technical proposals or other documents. In this case they take a more or less direct part in all work at all stages of the life cycle of the armament or military equipment under their control. They participate in the drafting of technical proposals for scientific research, and in passing on its results. They examine and issue conclusions on sketches and technical plans drawn up by industrial enterprises in correspondence with technical proposals. They coordinate an

entire range of documents necessary to organize the drafting of design documents and manufacture of experimental series models of armament and military equipment. They monitor the manufacture of experimental models of armament and military equipment, and they participate in all stages of its testing. They monitor manufacture of series models and certify their quality. They make themselves available during operation of the articles (coordinating and monitoring necessary improvements, participating in efforts to lengthen rated life), and so on.

Our office of military representatives was formed with the purpose of monitoring development of computer systems for the support of fire control systems of armament possessed by the PVO Forces. It participates directly in their development and series production, and in the development of an entire range of Russian computer systems.

One of the important problems troubling troop units operating computer systems is their reliability and the availability of the needed spare parts, tools and accessories. There are many complaints against us in this area, including in regard to our contracting policy with industry. I cannot solve them on my own. As everywhere else, we also have many deficiencies. And we have negligent officers. But our work involves a range of problems and characteristics that often have objective grounds for their existence, and about which operating personnel in the troop units are ultimately little concerned.

I would like to single out at least the main ones. First, equipment support to the drafting of documents is below present requirements. The developing enterprises are experiencing a clear lack of personal computers and work stations supported by a wide range of applications software. This of course has an effect on the quality with which design documents are drafted.

Second, the quality of components and materials is far behind the requirements established for the computer equipment under development. This problem is aggravated by the decrease in possibilities for delivery of these materials in future years in view of various causes.

Third, the level of equipment support to production, including of general-purpose systems for monitoring the status of the production process and the quality of manufacture of assembled units, is significantly behind the growing structural and technological complexity of the computer systems being developed.

And then there are the financial difficulties of the developing and manufacturing enterprises, which limit their possibilities for retooling.

These problems compel enterprises and military representatives working with them to manufacture experimental models on obsolete production equipment, and then carry out a large number of diverse tests to attain the prescribed characteristics. All of this affects both the quality of the work and the time it takes to carry it out.

These problems "spill over" indirectly into the forces as well, especially at the stage of delivery of the first models. In this regard the complaints of chief engineers of PVO components and specialists of military units regarding the quality of the supplied computer systems and the slow correction of shortcomings and restoration (replenishment) of spare parts, tools and accessories are fully justified. But even under these conditions we are trying to do everything we can to see that the equipment that is received is up-to-date and reliable.

The processes of perestroika are now having a strong effect on the rate and scale of development of soviet computer technology, which is in turn influencing the design of computer systems for PVO forces to a certain degree. This area has its problems as well. Abrupt and undifferentiated reduction of allocations for the purchase of armament and for scientific research and experimental design work and the insolvency of most of the scientific-production complex of former republics have reduced potential users of supercomputers in both "civilian" and military departments to a minimum. The previous narrow specialization of the developers of computer systems and the guaranteed "budget" financing have created a situation in the new economic conditions where these developers are financially and structurally unprepared to deal with the avalanche of new problems.

A number of additional problems that have to be solved by personnel of the office of military representatives have arisen under these conditions. They are associated primarily with making a full transition of all jobs carried out by industrial enterprises in behalf of the armed forces into a system of strong contracting economic relations, together with significantly reducing the number of military representatives. Analysis of the work of personnel of our delivery and acceptance office shows that not less than 50 percent of the work time of our leading specialists is taken up by presently required economic operations. This will naturally have an effect on the quality of monitoring development and design of computer systems.

These main causes are obvious.

Neither personnel of the office of military representatives nor the developers of computer systems have sufficient experience yet in economic operations. Cumbersome methods of directly estimating the cost of work are still used to justify the cost of this work. We know that this is brought about to a certain extent by the unique features of the work being done. It does not always allow the use of the mathematical economic methods of price setting. Scientific research institutions of our branch of the armed forces could provide considerable assistance to military representatives in these matters.

Unfortunately the developers of computer systems do not have any special desire to maximize the use of other price-setting methods either. I think that with time, as

the appropriate base of actual expenditures is developed, such a transition will be accomplished.

It should also be noted that to a certain degree, military representatives are being diverted to economic work because of the desire of industrial enterprises, which have to face the currently existing budget and financial limitations, to make maximum use of small enterprises and cooperatives in their work, so as to fill orders and retain specialists. It is insulting when top-class specialists, doctors and candidates of sciences, and executives of leading subdivisions are forced to waste their work time unproductively on various "refinements" just to retain the needed specialists, and to do jobs that have now become primary in the lives of many of them. This ultimately affects the time it takes to design computer systems, and correspondingly the expenses of the Ministry of Defense.

From the editor. The problems of armament and military equipment addressed in this journal are extremely complex. The feeling from all of this is that the PVO Forces are conducting an intensive search for the most painless way out of the difficult situation that has evolved. All specialists who have written articles on this subject in this journal are agreed on one thing: Until international problems are solved by our political leaders, and until the general political situation in the country is stabilized, it will be practically impossible to eliminate the difficulties that have arisen in armament and military equipment.

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Description, Specifications of S-300 SAM

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[Article by Col N. Markov, Lt Col S. Zhuykov, and V. Yepifanov, designer of the Antey Scientific Production Association: "The S-300V Surface-to-Air Missile System"]

[Text] The system is intended for air defense of troop groupings and key front installations against strikes by cruise, aeroballistic, and ballistic tactical and operational-tactical missiles, and also against army, tactical, and strategic aviation aircraft. It ensures effective repelling of massive attacks by modern offensive air weapons in conditions of intensive electronic countermeasures. It is capable of carrying out a combat mission in various weather conditions. The S-300V is a multichannel system. Its weapons can be fired simultaneously against up to 24 targets with guidance of two or four missiles to each target from one or two launchers, respectively.

The system includes the detection and target designation complex and up to four missile systems. They are accommodated on standardized Type 830 tracked chassis, which have a high off-road capability and maneuverability. This enables the S-300V to occupy fire positions from the line of march without preliminary engineer preparation. All the weapons have an independent electrical supply and radio communications. They are equipped with navigation, topographic survey, and orientation equipment, ensuring tying in to one system of coordinates. The process of combat operation is automated to the maximum extent thanks to the use of high-speed digital computers. The time for closing down and setting up the system is 5 minutes; the time for switching from alert duty operations to the operating mode is no more than 40 seconds.

Specifications and Performance Characteristics

Maximum effective range, km	100
Effective altitude, km	
minimum (aerodynamic/ballistic)	0.025-20
maximum (aerodynamic/ballistic)	30-25
Speed of target engagement, m/s	10000
Number of targets that can be fired upon simultaneously	24
Area defended by the system, sq km	
from simultaneous strike by 4 Lance missiles	500
from simultaneous strike by 2 Pershing-1A missiles	240
from one strike by a Pershing-1B missile	310
Number of missiles that can be guided simultaneously	48
Fire interval, seconds	1.5
Missile launch preparation time, seconds	15
Setting up (closing down) time, minutes	5
Time for switching from alert to operating mode, seconds	40
Basic load of missiles (depending on complement of launchers)	96-192

The detection and target designation center of the S-300V consists of a command post and circular and sector scan radar systems. The command post collects and processes information from radar reconnaissance assets, plans and tracks projected routes for 70 targets, and automatically distributes 24 of them among the missile guidance stations, taking into account their basic load. The post may operate both in an autonomous mode of control and in a centralized mode (from a higher command post).

The sector-scan radar is designed for detecting high-speed ballistic and also aerodynamic targets at a range of 175 km in an environment of heavy jamming. It regularly scans the space in the sector up to 90 degrees azimuth and up to 50 degrees angle of site. The center of the search sector and its parameters are given by the command post. Upon detection of a high-speed target, the projected flight plan is coordinated and its trajectory parameters transmitted over communication lines to the command post. The maximum number of flight paths that can be tracked is 16. There is a capability to search for targets using external target designation from the system's command post. The circular-scan radar can detect up to 200 targets simultaneously, determining their nationality in so doing. This information is then relayed to the command post over the communication lines. The maximum scan range is 200 km, altitude 30 km.

The SAM system includes a multichannel missile guidance station and up to six launchers and launcher-loaders. The station can operate both autonomously and in the mode of centralized control from the command post. It searches, detects, determines the nationality, locks on, and tracks 12 targets, and simultaneously can control the operation of all launchers, relay to them the information needed for launch and guidance of 12 missiles against 6 targets. The maximum detection range is 150 km. The station automatically scans the near-earth edge in which low-flying targets may appear.

The system uses two types of launchers with a high degree of standardization (on the order of 90 percent). They launch the missiles, transmit radio correction data, and illuminate the target. The artillery unit of the first type of missiles is intended to accommodate four light surface-to-air missiles; they have a horizontal antenna assembly. The launchers of the second type serve to accommodate two heavy surface-to-air missiles; their antenna assemblies are installed vertically. There are also two types of launcher-loaders. The first type is used for transporting and storing four light missiles; the second type is used for two heavy missiles. On command from the launcher, they can execute a launch. They include a crane device which is used to load and unload the launcher and also the launcher loader. The surface-to-air missile is a two-stage solid-propellant missile. It is made in the "lifting cone" aerodynamic configuration. It is housed in a reusable launch-shipping canister and is at constant readiness for use during an extended period of operation without performing any preparatory operations in all climate zones. The missile is ejected by the

working gases of the launch-shipping canister's gas generator. The launch is vertical. It has a flight speed of more than 2500 meters per second.

During launch preparation of the missile, the onboard computer receives information on the coordinates and signature of the target to be destroyed. After the missile is ejected from the launch-shipping canister, the impulse declination engine and propulsion system of the launch stage are started. The computer generates control and stabilization commands, which are adjusted in the process of flight. After releasing the first stage, the sustainer engine starts, and guidance is accomplished by radio commands from the launcher. In the vicinity of the target, depending on the rendezvous conditions, the missile rolls towards the target. After target lock-on by the homing head, the missile switches to the proportional navigation homing mode. The warhead detonates upon approaching to a certain distance to the target.

The S-300V system uses heavy and light missiles. The heavy missile is designed to destroy high-speed tactical and operational-tactical ballistic missiles, aeroballistic missiles, and also aerodynamic targets. It is capable of destroying aircraft conducting active jamming at a range of up to 100 km. The maximum flight speed is 2500 meters per second. The light missile is used to destroy aerodynamic targets, including those actively maneuvering at up to 7-8 g's, as well as ballistic, aeroballistic, and cruise missiles. Its maximum flight speed is 1700 meters per second. The missiles have the same complement of equipment, with the exception of the launch stage and launch-shipping canisters. They use isotropic warheads with heavy fragments.

In addition to the combat equipment, the system includes maintenance and repair equipment designed to maintain the S-300V in constant combat readiness.

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Prior, Current Design Work on Precision-guided Munitions

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18 Feb 93 p 2

[Article by Lt Col Aleksandr Dolgikh, KRASNAYA ZVEZDA correspondent: "The Missile Sees the Target, or the History of the Creation of One of the Country's First Precision-Guided Weapons Systems"]

[Text] The defeat of the Iraqi troops by the allies in January 1991 was achieved basically through their use of the latest models of weapons, above all precision-guided munitions. The conclusion was also made that these weapons can be compared to nuclear weapons in their combat capabilities and effectiveness. That is why many countries are now working intensively on developing new types of precision-guided munitions, as well as modernizing and upgrading old systems.

Our country, naturally, is also conducting similar work. Today we are opening slightly the veil of secrecy over one interesting development.

Briefly, the early history is such. All our tactical and operational-tactical missiles in the inventory of the Ground Forces up to now have been so-called "inertial" type missiles. That is to say, they are guided to the target based on the laws of mechanics. The first of these missiles had an error rate measured in kilometers, and this was considered normal. Later on, the inertial systems were improved, which made it possible to improve the deviation from the target to tens of meters for subsequent generations of missiles. However, this is the limit of the capabilities of the "inertial" missiles. A "crisis of style," as they say, ensued, and accuracy, no matter how good, had to be increased. But how, in what way?

This question was to be answered by the associates at the Central Scientific Research Institute of Automation and Hydraulics [TsNIIAG], which originally was oriented on developing guidance and control systems, including for various types of armament. Zinovy Moiseyevich Persits, a department head at the institute, headed the work on creating a missile homing system, as it was later called. Back during the 1950's he was awarded the Lenin Prize as one of the creators of the "Smel," the country's first antitank guided missile. He and his colleagues also had other successful developments. This time they had to come up with a mechanism which would ensure that a missile would hit small targets (bridges, launchers, and so forth).

At first, those in the military were not too optimistic about the dreams of those at the TsNIIAG. After all, according to instructions, regulations, and manuals, the purpose of missiles was to ensure delivery of a warhead to the vicinity of the target. Therefore, a deviation measured in meters was not of great importance; the task would still be accomplished. However, they promised to allocate, if necessary, several outdated (already for that period) R-17 operational-tactical missiles (abroad they are Scuds), for which a deviation of even 2 kilometers was permissible.

They decided to rely on developing an optical homing head. The concept was like this. A picture is taken from a satellite or aircraft. A photo interpreter finds the target on it and marks it with a specific mark. Then this picture becomes the basis for creating the standard against which the "optics," mounted under the transparent fairing of the missile warhead, would collate with the actual terrain and find the target.

Laboratory tests took place between 1967 and 1973. One of the main problems was: In what form should the standards be made? From several variants they chose a photographic film with a 4x4 mm frame, on which the section of terrain with the target would be photographed

at various scales. On command of the altimeter, the frames would change, enabling the head to locate the target.

However, this way of solving the problem proved hopeless. First, the homing head itself turned out to be too big. The military also completely rejected such a design. They believed that the information should be received by the missile not by inserting "some kind of tape" prior to the launch itself, when the missile is already at the operational site ready for launch and all work is supposed to be completed, but in a different way somehow. Maybe it could be relayed over wires, or even better—over radio. The fact that the optical head could be used only during clear weather also did not suit them.

So, by 1974 it had become clear: different ways of solving the problem were needed. This was also the topic at one of the meetings of the Collegium of the Ministry of the Defense Industry.

By that time, computer technology was beginning to be introduced more and more actively into science and production. A more perfected component base was being developed. New people appeared in Persits' department, many of whom had already had time to work on creating various information systems. They proposed making the standards using electronics. They believed an onboard computer was needed, into whose memory they would enter the entire algorithm of actions for leading the missile to the target, lock-on of the target, holding it, and ultimately destroying it.

This was a very difficult period. As always, they worked 14-16 hours a day. There was no way they could create a digital sensor which could read the encoded target information from the computer memory. They learned, as they say, from experience. No one interfered in the developments. In general, no one knew much about them. Therefore, when the first tests of the system took place, it made a pretty good showing. For many this was truly a surprise.

Meanwhile, the views towards the methods of waging war in modern conditions were changing. Military scientists gradually were coming to the conclusion that using nuclear weapons, particularly in the tactical and operational-tactical context, may not only be ineffective but also dangerous: besides the enemy, friendly casualties could not be ruled out. A fundamentally new weapon was required, one that would ensure mission accomplishment by a conventional warhead—through the highest accuracy.

The Precision-Guidance Systems of Tactical and Operational-Tactical Missiles Laboratory was created at one of the scientific research institutes of the Ministry of Defense. At first it was to study what developments the defense workers already had, above all those at the TsNIIAG.

The year was 1975. By this time Persits' team had prototypes of a future system, which was miniature and

quite reliable, that is, it met the initial requirements. In principle, the problem with standards was solved. Now they were being loaded into the computer memory in the form of terrain images made at various scales. At the moment of flight of the warhead, on command of the altimeter, these images were called from the memory in turn, and the digital sensor took readings from each of them.

After a series of successful experiments, it was decided to put the system on an "aircraft."

At the test range, they hooked a mock-up of a missile with a homing head to the "belly" of a Su-17. The pilot flew the aircraft over the missile's planned flight trajectory. A movie camera recorded the homing head's work. The camera "viewed" the terrain through the same "eye" as the homing head, that is, through a common lens.

Then came the first "flight critique." Everyone held their breath as they watched the screen. Then came the first frames. Altitude 10,000 meters. In the haze you could just barely see the outline of the ground. The "head" was moving smoothly from side to side, as if searching for something. Suddenly it stopped, and no matter how the aircraft maneuvered, it constantly kept the same place in the center of the frame. Finally, when the aircraft had descended to 4,000 meters, everyone clearly saw the target. Yes, the electronics understood man and did everything that was dependent on it. There was a celebration that day.

Many considered the "aircraft" success as graphic evidence of the viability of the system. But Persits knew that only successful missile launches could convince customers. The first of them took place on 29 September 1979. An R-17 missile launched from a distance of 300 km at the Kapustin Yar Test Range fell several meters from the center of the target.

Later there was a decree of the Central Committee and the Council of Ministers on this program. Funds were allocated, and dozens of enterprises became involved in this work. Now the workers at the TsNIIAG no longer had to stitch the necessary parts by hand. They were responsible for developing the entire guidance and control system, preparing and processing data, and the input of information into the onboard computer.

Representatives of the Ministry of Defense also worked in rhythm with the designers. Thousands of people worked on fulfilling the quotas. The R-17 missile itself also changes somewhat in terms of design. Now the warhead has become detachable and has installed on it control surfaces, a stabilization system, and so forth. The

TsNIIAG created special machines for inputting information, which are used to encode the information and then to relay it by cable to the memory of the onboard computer. Naturally, not everything went smoothly; there were some glitches. That is understandable: much had to be done for the first time. The situation became particularly complicated after several unsuccessful missile launches.

That was in 1984. On 24 September there was an unsuccessful launch, and another one on 31 October: the head did not recognize the target.

The tests were halted.

What had started here! Meeting after meeting, sharp rebuke after sharp rebuke... At one of the conferences at the Military-Industrial Commission, the question even was raised about returning the work to the scientific research level. The opinion of Colonel-General Yu. Andrianov, then chief of the Main Missile-Artillery Directorate, and other military specialists who favored continuing the work in the former mode became decisive.

Almost a year was spent searching for the "interference." Dozens of new algorithms were worked out, and all mechanisms were taken apart and put back together. They looked everywhere, but could not find the malfunction.

In 1985, they began repeat testing. The missile launch was set for morning. In the evening the specialists again ran the program on the computer. Before leaving, they decided to inspect the transparent fairings which were delivered the day before and were to be put on the front sections of the missiles. What happened then has already now become a legend. One of the designers looked into the fairing and... The light from a lamp hanging on one side, refracted for some unknown reason, did not make it possible to distinguish objects through the glass.

It turned out that a very thin layer of dust on the inner surface of the fairing was to blame for everything.

In the morning, having finally "regained its sight," the missile fell at the designated place, right where it was aimed.

The experimental design work was successfully completed in 1989. But the scientists' research still continues; therefore, it is too early to sum up the final results. It is hard to say what the future holds for the fate of this development, but another thing is clear: it made it possible to study the principles of creating precision-guided weapon systems, to see their strong and weak points, and at the same time make a mass of discoveries and inventions which are already being introduced into both military and civilian production.

CIS: NAVAL FORCES

R-Adm Vyacheslav Declines Decline as Sea Power

93UM0481B Moscow KRASNAYA ZVEZDA in Russian
2 Apr 93 p 1

[Interview with St. Petersburg Vice-Mayor Rear Admiral Vyacheslav Nikolayevich Shcherbakov by Valeriy Streltsov of KRASNAYA ZVEZDA: "The Opportunities to Neglect Common Sense Have Already Been Exhausted—Feels Vice-Mayor of St. Petersburg Vyacheslav Shcherbakov"]

[Text]

From the Files of KRASNAYA ZVEZDA

He was born in 1940. After completing the Leningrad Higher Military School for Submarining, he rose to commander of a nuclear submarine while defending his candidate's dissertation over 15 years of service with the Northern Fleet. He has been at the Naval Academy, as head of one of the leading departments, since 1979, and has become a doctor of sciences and professor. He is an active member (academician) of the Russian Academy of Natural Sciences and the Academy of Transport of the Russian Federation. He is a rear admiral.

He was elected a deputy to the city soviet in March of 1990, and has been vice-mayor of St. Petersburg since 12 Jun 91.

[V. Streltsov] Vyacheslav Nikolayevich, you are not the first to come into the power structure from spheres far from politics. But just why did you, with the "ocean waves" in your very bones, as they say, and who had achieved a decent position status in the military sphere, decide to take the crucial post of vice-mayor of the second city of Russia?

[V.N. Shcherbakov] At first I never expected to get involved in these political battles, and intended to be neither a deputy or, the more so, the vice-mayor. But a familiarity with the people who are striving to come "to power" forced me to get to thinking very deeply. Because quite a few of those aspirants seeking the deputy's mandate, unfortunately, were people who not only put me on guard, but quite frankly frightened me. Or rather, I was frightened by what they could wreak if they were to get into power en masse. That circumstance whipped me to get into the "fray"... So I became a deputy of the Leningrad Soviet. Then I agreed to stand with Anatoliy Sobchak in the elections in the capacity of vice-mayor of the city.

[V. Streltsov] What issues are you dealing with in your new position? Probably conversion and the defense industry of the city?

[V.N. Shcherbakov] Yes, I was occupied with the problem of conversion even when I was working at the academy, when the very word "conversion" itself had

only just appeared in our lexicon. Aside from conversion, I deal with issues of ecology and power engineering.

[V. Streltsov] But at the academy, after all, you were occupied with those problems as a scholar, and not as an organizer. There is a difference, you will agree.

[V.N. Shcherbakov] Undoubtedly. The framework of the academy imposed its own specific features. That is, we were by and large doing scientific studies of these problems. Most of the studies, as a rule, were transmitted to practitioners for realization. We often performed the scientific support for many practical tasks, however, and in this case it is quite difficult to separate science from practice.

Conversion, ecology and power engineering, you understand, are most acute and painful problems for our region. It is no secret today that more than 20 percent of the potential of the elite defense industry of Russia is concentrated here in our region. More than half of the 300,000 residents of our city employed in the scientific sectors are directly or indirectly working in the defense industry even to this day. It is very important to emphasize the fact of the obvious impossibility of a radical solution of the problems of conversion, ecology and power engineering, the more so as they can in no way be solved within the framework of the city alone. It should be done, as a minimum, on the scale of the smaller region (city and oblast). I assume that we have the capability to overcome the artificial separation of the city and oblast.

[V. Streltsov] And how do you arrange your relations today with the Navy, to which you have given a large part of your life?

[V.N. Shcherbakov] Are you asking if I have "divorced" myself from the Navy? No, of course not. I am a cadre military officer of the fleet as before, and in accordance with prevailing legislation I am on temporary detached duty to fulfill my electoral obligations.

[V. Streltsov] Is that having any effect on your inner state, is it creating any discomfort?

[V.N. Shcherbakov] I am so firmly tied to army and navy problems today that I do not feel myself at all detached from the military milieu, the more so torn away from it. What bothers me?

A clearly formulated military doctrine is still lacking. Both the political and the military-technical aspects of it. It is painful to see unsolved problems in the defense industry. The most important problem at the state level has in essence been shunted down to the local areas, forcing the heads of defense enterprises to make the decision of whether or not to put out this or that product. Isn't that disgraceful? And all because no one wants to be responsible for the consequences of conversion. I share entirely the position of the commander-in-chief of the Combined Armed Forces of the CIS, Marshal Yevgeniy Shaposhnikov, on this issue and on the issue of the organizational development of the Armed Forces. He

has proved convincingly, in my opinion, the ruinous nature of the policies of the leaders of individual sovereign states, a policy of fragmentation in matters of defense, of fragmentation in the resolution of issues on which the fate of the defense industry of the former Union depends. Such isolationist policies, after all, could cost us very dearly.

As for army problems at the local level, the most troubling one is social protection for officers. There are more than 17,000 families of servicemen without apartments in the city and oblast today. And these are not just people, after all, these are the people "with the gun." And the question constantly comes up for each of them—how will I get by, what school will my children go to, what polyclinic will take my child? It is not just the lack of housing, it is the tangle of many of life's problems that are difficult and costly to solve.

[V. Streltsov] The 300th anniversary of the Russian fleet is approaching. How will the city greet it?

[V.N. Shcherbakov] Taking into account the special significance of our city in maritime matters, a regional center of the Russian Maritime Center has been created here and is preparing for the anniversary. I have been named president of that regional center. Today we are forming the appropriate structures for the realization of an extensive program for preparing and holding the celebration. Some of our politicians, unfortunately, have in recent years repeatedly stated that doubts have begun to creep in among our countrymen in recent years—could it be that we are really a continental power? That is the most profound delusion. We know how dearly the status of a great naval power was won. So much blood was shed by our forebears on the path to that, how hard it was to advance into the Black and Baltic seas, how difficult it was to assimilate the Arctic Ocean and the Far East. All of that is our history. And to say that our forefathers erred in building the policy of a state as a great maritime power is at the very least immoral.

[V. Streltsov] So what can be done?

[V.N. Shcherbakov] The central task in preparing for the celebration is to have proper regard for what has been done, to make use of the moment for the patriotic education of the youth. There are objectors and deserters all around, everywhere you look today. A gloomy picture. But every young person, after all, is obliged to realize distinctly that no one has taken away the task of defending the Fatherland from him. Everything must be done to see that the young are proud of the traditions and the might of the Russian fleet. The sophistication of the fleet according to many measures, after all, is at a high level even today, at a time of crisis. Certain technical solutions appeared here in shipbuilding as early as the 1960s, that the leading seagoing powers of the world have not achieved to this day. But all that is under threat of collapse today, which cannot be permitted.

The main thing is not to lose the production capacity and the scientific, design and production collectives. If

people scatter and see that there is easier work but better paid, it will be exceedingly difficult to restore them in the future.

[V. Streltsov] And one more thing. What do you see as the near-term prospects for St. Petersburg and the country as a whole?

[V.N. Shcherbakov] It is obvious to many today that the coming months will be very difficult, both for our city and for the country as a whole. Last winter we were saved by the centralized supply that was living out its last months, and not by the humanitarian aid as some assert. The regional ties that have taken shape over decades and on the basis of objective laws and traditional relations among the republics and peoples of the former USSR are now destroyed. I hope that the euphoria over sovereignty will soon pass, and common sense will prevail. That ties will not only be restored, but will moreover become stronger than they were before. I also hope and believe that time will be on our side.

Impact of Submarine Training Center Closing in Estonia

93UM04814 Moscow KRSNAYA ZVEZDA in Russian
6 Apr 93 p 2

[Article by Vasily Fatigarov of KRSNAYA ZVEZDA, Tallinn—Paldiski—Moscow: "The Tangle of Fleet Problems Against the Background of the Submarine 'On Shore'—The History of the Naval Training Center at Paldiski is Coming to a Close"]

[Text] Who among the sailors of the missile submarines does not know this Estonian city? Paldiski was one of the cycles in the "great circle" of their service: combat training at sea—leave—training—receipt of vessel—and off to sea again, up until quite recently. It is the word "training" that contains the Paldiski period of their lives, since the training center for the preparation of missile submarine crews is located there.

It is difficult to ascertain today (and who could have imagined that the Union would disintegrate) why namely this Estonian city was selected for this. But there are reasons on a historical plane.

Necessary Explanation

Paldiski was founded in the 17th century. It was considered a Russian naval base starting in 1725, and was even called Baltic Port from 1783 through 1917 in confirmation of this.

In 1939 (still before the entry of Estonia into the USSR), the territory of Paldiski was leased to the Union for 25 years. Local farmers were paid in gold for the leasing of the land. The construction of a new naval base began at that time. The training center was created after the war. Nuclear-submarine crews have been trained there since the 1960s.

There is no other such center in Russia, or anywhere in the world for that matter, the sailors assert. There is evidently a certain common sense to this. The highly complex hardware requires that people have skills that have been brought to automatic levels, and a clear-cut conception of actions in any—including the most extreme—situations. A whole multistory compound of training facilities was built here in Paldiski. There are also 82 residential buildings, two schools, seven stores and four kindergartens. More than one nuclear submarine has been modeled in cross-section in these gray buildings, along with two nuclear reactors to train the crews and automated control systems...

But that is all in the past. Today Paldiski is Estonian territory. The crews of submarines do not come here anymore. The reasons are well known—Estonia is demanding the withdrawal of Russian troops, and will permit no "new formations of an alien army" on its territory.

The radicals quickly try to take advantage of their opportunities with the slightest "violation of these principles." The Tallinn "greens" already undertook a march on Paldiski last year, and in the first ranks, just like a living barrier, went the women and children. It is difficult to say how this would have ended had the command of the center not been able to talk the "greens" into stopping on the approach to the building with the reactors.

The city is virtually empty today without crews. They understand in the center, as with all of our military units here, that departure from Estonia is inevitable. I do not want to relate all of my discussions with the officers at the center. They, like other servicemen, are primarily concerned with the problems of the future.

At least some of the prospects here are clear. The questions of transferring the officers to Russia and determining the status of military retirees in Estonia are being resolved one way or another. But one problem remains unresolved. "What about this very valuable equipment?" I asked the assistant chief of the center, Captain 1st Rank Oleg Rozhko.

"It's cheaper and simpler to rebuild it all over again than to move it someplace," said Oleg Aleksandrovich. "But the country probably can't afford it today."

I was not able to get a convincing explanation here of just how the fate of the training center will be resolved. That is wholly understandable, by the way. The question will evidently be decided only in Moscow and in Russian-Estonian negotiations.

A group of officers from the Main Staff of the RF Navy was working in Paldiski. When they returned to Moscow, I spoke with the head of the group, Captain 1st Rank Valeriy Nikolayevskiy, deputy chief of a department in the Combat Training Directorate of the Navy.

"Valeriy Pavlovich, how appreciable is the loss of Paldiski?"

"The situation is very serious; the center has not been functioning since 25 May 92. But one cannot call the situation hopeless. The level of training of the sailors, true, is sharply lower today. It has not been possible to organize it in the fleets. Combat training is everywhere being replaced today with shore training, and excursions to sea are replaced by command/staff exercises, for the sake of economizing resources and fuel. But while a commanding officer can make his activity close to combat in exercises, it is difficult for a sailor, for example, to act hypothetically, it does not give him the skills necessary in battle, when there is no time to think and remember theory. He used to receive those skills namely at Paldiski."

"Is there a replacement for the Paldiski center?"

"The situation, I repeat, is a difficult one. But that does not mean that we have given up. There is a well-defined plan for the development of the training base, excluding Paldiski. It has already been fully financed and incarnated."

Necessary Explanation

The training of submarine sailors has temporarily been organized at a center where only the crews of attack submarines used to be trained. The creation of a full-fledged training center is planned for the future. That will moreover now be for the crews of newer-generation submarines. Many officers have been transferred from Paldiski to establish that center.

It is more economically advantageous for our sailors at the moment, however, to continue training at Paldiski. But it is difficult to come to an agreement with the Estonians. Another problem that has arisen in Paldiski is also confirmation of this—the safety of the dismantling of the reactors.

This question, in the opinion of Captain 1st Rank Nikolayevskiy, has not been completely resolved, largely through the fault of Estonia. The reactors are currently shut down, but their dismantling requires considerably more time than has been allotted to the Russian troops according to the deadlines for leaving the republic. Those deadlines are limited to 1994.

Worst of all is that no arguments are heeded. An expert in the Russian delegation to the negotiations, Captain 1st Rank Gennadiy Gorovoy (he also, by the way, serves in the Combat Training Directorate of the Navy), noted in our discussion that the Estonians are demanding that the reactor fuel be shipped out as early as the end of this year. Estonia is even ready to upgrade the Paldiski—Tallinn rail line by August for that purpose. The weight of one railcar with the center's equipment, after all, is about 20 tonnes—the current line cannot withstand such trains.

"That is only one aspect of the matter," said Captain 1st Rank Gorovoy. "And, I think, not the most important one. The principal problem is that the work to remove the reactor core demands serious preparation. A plan for the recovery of the reactor has already been drawn up. It takes all circumstances into account. Calculations show that the removal of the fuel from the reactor is possible only at the beginning of next year. The completion of full recovery of the reactor is realistic only by 1998, or perhaps even later. Rigid deadlines are inappropriate here—this is the first time this work is being done."

Necessary Explanation

Estonian experts refer to the readiness of other countries to provide assistance. Sweden, in their words, has offered its services in the recovery of the reactor in the fastest possible time. But no one has yet seen the necessary calculations. It is thus premature to be talking about any precise conclusions.

There are also two storage areas with solid and liquid radioactive wastes in Paldiski for which there are no methods of decontamination. This problem was also raised in the negotiations. Our experts, by the way, are not ruling out bringing in specialists from the IAEA. But this issue has not been conclusively studied either.

Thus are the final pages in the history of the training center being written. Perhaps one should not be relating them in such detail. But I am pursuing just one aim herein—to show how serious the consequences of the hasty resolution of problems in the military sphere can be.

Status of Pacific Fleet Ships' Condition, Maintenance

93UM04664 Moscow KRASNAYA ZVEZDA in Russian
25 Mar 93 p 2

[Article by Vladimir Maryukha and Vladimir Shirokov. KRASNAYA ZVEZDA: "The Pacific Ocean Scenario: It Is Proven Conclusively that the TOF [Pacific Ocean Fleet] Needs a State Support Program"]

[Text] For the last year or year and a half KRASNAYA ZVEZDA has written more than once with bitterness about the fate of the Minsk, the heavy, aircraft-carrying cruiser [TAKR], which has finally found its last resting place at the ship cemetery. This TAKR came to us from the Black Sea (it was built in Nikolayev) in 1979. Under different conditions, the Minsk could have been on active duty for another 10-15 years. All that needed to be done was to have periodic repairs in that same Nikolayev. But the shipyard is now in a different country....

We complained about fires and destruction on the Minsk's "younger brother," the TAKR Novorossiysk, also in its death throes without extremely necessary repairs in a shipyard. Such is life. But even before, news about adding new ships to the Pacific Ocean Fleet [TOF] was greeted with happiness only by non-specialists. The

arrival of each new ship was an additional headache: Where could a place be found for moorage? How could we prolong engine life without support from shore? With what could we replenish our supplies?

It should also be noted that even the new ships which reinforced the Russian fleet in the Far East are only relatively new. A ship's life is short—25, maximum 30 years. And the outfitting of a ship—after it leaves the shipyard and when the combat efficiency of a fleet is less than 100 percent—sometimes takes 3-5 years. This is exactly the ship's age for going again into a shipyard for "gerontological injections" to prevent its premature aging. But instead of shipyards, ships built in the Baltic and Black Seas are sent in an inter-fleet transfer to the Pacific Ocean, and while enroute, conduct combat activities. After a long (4-5 month) voyage, according to all norms and rules, these ships should also go to a shipyard.

Intermediate repairs can still be done in a capable manner in Far East shipyards, but these lack the needed capacity. It is exactly because of this that the fate of fairly new large anti-submarine warfare [ASW] ships is developing badly. The ships include the Admiral Zakharov, Admiral Vinogradov, and Admiral Tributs, which began their voyages in the Baltic. The fate of other TOF ships is similar, ships that appeared to be the pride of engineering knowledge when their keels were laid. The majority of these ships is being "retired" long before their age limit.

Over the last three years, the TOF has retired a total of 77 ships of different classes. And this is all due to the fact that from the first day they arrived in the fleet, they were being worked on a "wear and tear" basis, often without being moored, without a power supply from shore, and without repairs at designated intervals.

Russia does not need a strong Navy for overseas colonial expeditions, including the Pacific Ocean area. But only a strong state that has ships and support bases along all the borders with its neighbors can accrue the riches of Siberia and the ocean depths, and the mineral wealth of the continental shelf of the Far East. These forces should also have the capability of long voyages into the ocean. The necessity for this was proved by the voyages of the Pacific Ocean Fleet navy men to the Persian Gulf, accomplishing missions there on the order of the President of the Russian Federation, in a multinational force under the aegis of the United Nations.

But the same two consecutive voyages of individual TOF ships in the gulf (ASW ships Admiral Vinogradov and Admiral Tributs) also showed something else. The limit to the forces of the Pacific fleet when one ship is at sea and not available for combat. Navies of the developed countries of the world have long ago gone over to fulfilling missions at sea in operational-strategic ship groups. Some ten years ago our seamen also mastered the technique of conducting combat duty in a detachment of ships. Even earlier, not on paper, but actually at sea were

the Mediterranean and Indian Ocean operational squadrons (which also included protecting peaceful sailing in the Persian Gulf). The economic crisis, the disintegration of the Union, and "anti-submarine submarine engagements" for foreign policy reasons put a stop to all Navy activities. The Navy, and primarily the Pacific Ocean Fleet, became as one with the land through the nervous sprouting of mooring lines. This is not befitting a great power.

The TOF is truly an ocean fleet, but the fleet—like the mythical Antheus—gains its strength from the land. Or, more accurately, it gains its strength from its support bases, and material and technical supply stations. The Pacific seamen, however, who "ran" their ships in two oceans, in addition to the Russian bases in the Maritime Province, Khabarovsk Kray, and Kamchatka had another point on the map where they could catch their breaths, replenish supplies, and fix up their ships that had been battered by the elements. The material and technical supply station in the Vietnamese port of Cam Ranh supported the TOF for many years, but the Pacific seamen are already leaving there, too.

A new shipbuilding program is now being developed for the Russian Navy. New ships will also be designed for the TOF. However, we are not speaking simply about replenishing the ship inventory. In addition to various problems, the fleet is facing significant cuts. We have to get rid of obsolete ships, but in view of the lack of men and equipment, the combat readiness of the ships in service will suffer. And how can we use the ships and nuclear submarines that have served their time? Again, funds will be needed from the fleet budget, and personnel will have to be assigned to preserve designated shipboard equipment, maintain it while it is on the water, and provide security. Even the Minsk, which has already been relegated to the ship cemetery, has its guard watches. Attempts at theft have been tried more than once on a dead ship, and these could turn into tragedy.

One other problem needs to be resolved expeditiously: The incomplete staffing of sailors and petty officers who are on fixed terms of active duty. The combat readiness of the fleet is learning a very serious lesson. Judge for yourselves: Diesel and nuclear submarines are staffed with personnel up to 90-95 percent while surface ships—no more than 70 percent. The percent of people wanting to serve on contract in the TOF is one of the very lowest, and among the draftees there are many who are just not fit for sea duty. Nearly 2,500 seamen who came to the fleet from the last draft call, as we already reported, were underweight by 10-15 kilograms. There is not even a question of going on duty when they first have to be fattened up and cured of "old" sicknesses at 18 years of age....

It is for this reason that a strong state program is needed for developing the Pacific Ocean Fleet, for Russia does have interests in this region and they need to be protected.

Let us just remind you that the fleets of our Far Eastern neighbors (although there is no longer a Cold War, the

forces of other states can hardly be looked upon as protectors of Russian interests) have not stopped development. The U.S. Navy in this region, for example, may be considered a classic model, and it would not be a bad thing if our Pacific Ocean Fleet would imitate the Americans. The Japanese Navy has over 100 combat ships and small combatant vessels, around 100 anti-submarine warfare aircraft, and 14 submarines, including 3 in reserve.

We would like to note that the service life for submarines in the Japanese Navy does not exceed 15 years, while for surface ships the limit is 10-15 years. There is then a planned replacement of the ships that have served their time. The old ships are taken off the active rolls and replaced by new ones. Incidentally, 26 destroyers of the Japanese Navy have been serving for under 8 years, but at the beginning of this year the newest ship of this class was entered into the active fleet inventory.

These forces have the mission of conducting effective combat operations in a one thousand mile zone around the Japanese islands. What is involved in this one thousand mile zone can be determined by the reader by arming himself with a map, compass, and ruler. One has to remember, however, that to this one thousand miles (over 1,800 kilometers) there has to be added the flight range of the ships' missiles....

The protection of age-old Russian economic interests in the seas of the Far East is virtually non-existent. What better example can be given to prove this point than that of a Japanese fishing schooner which is faster than the border patrol combat ship we sent out to intercept it for violating Russian territorial waters and fishing limits?

Still, notwithstanding all the dramatic effects of the picture we have given, accurately portraying the reality of the fleet's viability, the TOF continues to fulfill the mission for which it was intended. But we must emphasize once again that the fleet needs powerful state support.

CIS: REAR SERVICES, SUPPORT ISSUES

Lt-Gen Bogdanov on Revamped Personnel Work System

93UM0458B Moscow KRASNAYA ZVEZDA in Russian
16 Mar 93 pp 1,3

[Interview with Main Personnel Directorate Chief Lieutenant-General Konstantin Valentinovich Bogdanov by Captain 2nd Rank S. Ishchenko, under the rubric: "Timely Topic": "There Are no Duties Without Rights"]

[Text] A Minister of Defense Order has enacted the Statute on the Russian Federation Armed Forces Personnel Organs. A decision on it was prepared over a long period of time and with difficulty. Doubts have been expressed: will political organs not be revived with a new

appearance? There have been quite a few such questions in KRASNAYA ZVEZDA's mail. The editorial staff asked Main Personnel Directorate Chief Lieutenant-General Konstantin Bogdanov to discuss what caused the need for the planned reorganization and what new things it will introduce into the education system.

[Ishchenko] Konstantin Valentinovich, personnel work comparatively recently became your primary military specialty. How do you, a former army commander, assess the state and effectiveness of the current educational process in the Armed Forces?

[Bogdanov] I must point out that, like any other commander, I have been involved with the education of my subordinates throughout my entire career. So, in this regard no change of profession whatsoever has occurred. It's another matter that recently I have had to totally concentrate on personnel work, having cast aside my remaining concerns.

Now let's get to the heart of the issue. The Russian Armed Forces, despite all of the scrapes of our social life, is in the main successfully fulfilling its missions. This is universally recognized and assessments of this type have been made at the highest state level. Yes and the inspections and end-of-training period performance evaluations of the ground and naval forces that were conducted last year and the numerous recent visits of Main Directorate generals and officers to division-sized and smaller units and to ships indicate that commanders, headquarters and personnel organs are succeeding, despite everything, to maintain the moral-psychological state of servicemen at a satisfactory level on the whole. The situation here is being controlled despite the unfavorable trends. The activities of our troops in the areas of Northern Ossetia and Ingushetia, in Tajikistan, in the Dniester Republic and in the Transcaucasus attest to the abilities of our personnel to withstand enormous moral-psychological loads and to successfully carry out the assigned missions.

However, despite all of this, there aren't too many grounds for optimism. There are very many problems in military education and they continue to worsen with each new draft.

First of all, the psychological atmosphere in society is having an extremely unfavorable impact on morale. The difficult painful course of socio-economic reforms, the rapid decline of the standard of living, social and ethnic conflicts, the replacement of political, world view and moral orientation points—people are tired, confused and irritated by all of this. And since the army is not isolated from society behind a "Great Wall of China", naturally those same processes are also occurring in the military environment.

Second, the situation that is developing around and inside the Armed Forces is very contradictory. The reduction and withdrawal of troops from abroad under conditions of a critical economic and political crisis is

engendering an unprecedented deterioration of the problems of social and legal protection of military members and their loved ones. When not only you but also your family does not have a roof over its head, when you don't know what will happen to you tomorrow... And when so much has been said about the "lack of need for the army" and even about its criminality on the television screen and on newspaper pages... Moreover, the curtailment of combat training due to the lack of fuel and financial resources.

Many cannot withstand it and are breaking. Although the primary mass, I repeat, is maintaining and is serving in a worthy manner. No matter what they say, the army at its foundation is imbued with the spirit of civic duty and patriotism. And we are deriving strength from it.

However, such a difficult situation requires us to increase many-fold the educational impact on each soldier and officer. Actually in practice, instead of increasing, a weakening of educational work in the troops has occurred nearly everywhere. Why?

We have excluded ideology from the spiritual sphere of the military organism but we have found ourselves to be poorly prepared to affect the psychology of the serviceman. We have involved a broad circle of leading cadres in educational work but we have detected a very critical shortage of professionalism in this complicated and delicate matter.

As a result, dangerous voids have begun to form in the spiritual sphere.

[Ishchenko] But how are the personnel organs headed by you? Are they called upon to prevent these voids?

[Bogdanov] Unfortunately, I must self critically admit that a significant share of the responsibility for the deterioration of the moral-psychological state of the army and navy also lies on us. Our predecessors did not think many things through, we also did not do enough work and made errors, and the people in some posts associated with pedagogy and psychology turned out to be far removed from this work. The formation of educational structures is proceeding but it is proceeding with difficulty, while overcoming contradictions and with bumps and bruises.

However, it would be unjust to restrict ourselves to that conclusion alone. The system for organizing education in the Armed Forces that was created after the elimination of the political organs has turned out to be inadequately effective. Quite a few cracks yes and simply unsuccessful "design" decisions have been discovered in it. Those who created this system were first of all concerned with destroying the system of party-political work and preventing the revival of the political organs. They were so concerned that they threw out the baby with the bath water.

Of course, political workers often assumed functions that were not characteristic to them, they took the place of

commanders, and they interfered with them at other times. All of that occurred. But at the same time, in their hands there was an effective mechanism to attain the assigned educational goals.

It's clear that now ideology has been excluded from education and there are largely different goals. Personnel organs in the Russian Army have been structured on a fundamentally different basis. However, even without the ideological component, the education mechanism in the troops must be fine tuned.

And what did we have until recently? The assistant commander for personnel was personally responsible for military discipline and the moral-psychological state of his subordinates, to issue instructions and orders, and they practically did not have the authority to strive for their fulfillment. This created enormous difficulties even under everyday conditions. What does this say about extreme conditions, when something had to be settled or any kind of recommendations or proposals had to be coordinated or developed—and it is this that assumes the rank of the assistant—if there is often neither time nor capabilities? It turns out, ask—they asked and they were not given the capabilities to properly affect the matter.

As a result, the impression was often created that all of our efforts were weakened and stalled at the military district, fleet and group of forces level. Hence, the lack of knowledge about what people need, what will happen to them tomorrow, and how with what strength and in what succession to carry out tasks began and increased like an avalanche. Amorphous approved organizational structures did not permit either their clarification or the organization of their fulfillment.

How could you work under these conditions? As a result, we did not manage to man precisely the lowest elements of the army organism—companies, battalions and their equivalents—with highly skilled, energetic officers. That is, those positions which primarily suggest direct contact with the soldier or sailor and with the junior officer. And the entire pyramid of educational work has been turned on its head: the closer to personnel and the greater the psychological and moral loads on him, the less attention, assistance and support to the specific person, the worse and weaker their education and moral-psychological preparation was conducted.

[Ishchenko] But now is there the possibility to finally correct the situation?

[Bogdanov] Largely, yes. The primary essence of the changes that are taking place are, with the enactment of the Statute on Personnel Organs, that their role and prestige as the coordinating and unifying element in the system of moral-psychological support of the troops have been increased. To the division level inclusively, that is, the status and authority of personnel officers have been increased there, where the issues of education are primarily being carried out. Here the former assistants have

become the deputies of the appropriate levels of commanders. The Statute states: the positions of deputy commanders of companies and their equivalent subunits will be maintained in units of 50 or more men and, in independent companies—regardless of their strength. Now deputies are direct superiors for all personnel of the corresponding units and subunits.

Personnel departments will be formed in brigades, divisions, military institutions of professional education, scientific-research and experimentation institutions. Higher—the appropriate independent organs will be formed in corps, armies, military academies, and certain directorates. Directorates will be formed in the services of the Armed Forces, in military districts, groups of forces, and in fleets. Assistants of commanders-in-chief, commanders, and commanders for work with personnel will head departments and directorates as previously.

I want to especially stress that the entire reorganization will be conducted within the limits of the currently existing strength of the educational structures in the Armed Forces.

[Ishchenko] Obviously the changes will also affect the officer-teacher training system?

[Bogdanov] Naturally, it will be improved. Right now we will conduct the retraining of the officials of our structures as before at military general education institutions, at appropriate courses of the services and combat arms and also at the Humanitarian Academy. As for professional training, it is being carried out at commander's training courses, at assemblies and at instructor-methodology classes.

And one more thing. For the future, we are examining the issue on creation of a military educational institution, at which training of specialists would be conducted for assignment to leading positions in the personnel organs.

[Ishchenko] Konstantin Valentinovich, thank you for your honesty and exhaustive answers. Along with you, I hope that the planned changes will help the formation and reform of our army and navy.

News From the Directorate of the Chief of the Radiation, Chemical and Biological Defense Troops

93UM04414 Moscow VOYENNY VESTNIK in Russian No 12, Dec 92 (Signed to press 20 Nov 92) pp 15-16

[Unattributed article: "News From the Directorate of the Chief of the Radiation, Chemical and Biological Defense Troops"]

[Text] The Scientific-Research Institute [NI] at Shikhany that specializes in problems of military chemistry and defense of troops from weapons of mass destruction has recently become the Central Volga

Regional Ecological Center. While considering the tense ecological situation in this region due to excessive saturation with industrial facilities, military scientists-chemists have decided to conduct monitoring of the environment and to propose a system of measures for protection of the population and nature from the effects of chemical ecotoxins based on its results.

The annual increase of the level of contamination of the biosphere by highly toxic xenobiotics causes the greatest concern. Dioxins are their typical representatives. Compounds of this class are distinguished by the special combination of properties, thanks to which they are extremely stable in the environment and practically do not have a low threshold of permissible concentrations with chronic entry into the human organism with food products, water and inhaled air. Even in insignificant doses, they cause a reduction of immunity to virus infections in people who do not suspect anything. If you look globally, then while possessing heightened embryotoxic, teratogenic, mutagenetic and carcinogenic capabilities and with this migration, dioxins directly impact a nation's gene pool.

Three primary sources of the entry of these polychlorophene super-poisons into the environment have been differentiated:

- wastes of unperfected technologies of organic synthesis which at the present time are practically not utilized;
- discharges into the atmosphere of cellulose-paper, metallurgical and other industrial enterprises, and also products of combustion of everyday garbage; and
- gases that are the products of internal combustion engines.

The comprehensive program proposed by the NII specialists is based on several key factors. They initially plan to inspect facilities that are potential polluters through the recovery of samples and their subsequent analysis. Then, they are faced with the compilation of a detailed picture of the dispersion of dioxin in the Central Volga Region. Incidentally, the information set forth in it will be continually updated.

They plan to study the most unfavorable areas in greater detail. Here the discovery of specific sources of leaks of dioxin and its structural analogies from the technosphere, and also surveillance of the possible paths of their migration, metabolism and disintegration in the environment. Furthermore, studies of the state of health of the population and the informative medical-biological indicators that are characteristic of the degree of the risk of the impact of xenobiotics on man that have been selected based upon their results will be conducted in ecological disaster areas. The substantiation of the methodology of predicting the consequences of poisoning living things by dioxins and also protective measures will be the logical conclusion of this stage.

The development of recommendations for the improvement of technological equipment for industrial enterprises and for the localization of hotbeds of contamination in the event of their detection will begin in parallel. And the most important thing in the technical portion of the project—is the creation of an environmental monitoring system in the Central Volga Region. Specifically, we must select and introduce suitable modern methods and technical monitoring systems for dioxin content, processing and systematization of information and so forth.

The comprehensive program is calculated by the year 2000. Besides military scientists-chemists, representatives of the region's other scientific institutions will participate in its realization. The Russian Ecological Committee is being tasked with overall leadership.

Ekokhim Scientific-Production Association is also operating under the institute. Highly skilled specialists in the sphere of physics, chemistry, biochemistry, biology, toxicology, radiology, hygiene and the physiology of labor are also working in it (and successfully fulfilling the duties in the primary position). They are carrying out practical orders at the level of world standards in the following directions on the most modern equipment while utilizing the latest research methods.

The Chemistry of Harmful Substances and Biologically Active Compounds. Specifically, they are carrying out their classification, studying their chemical structures, and determining spectral, laboratory, industrial and operational characteristics, and synthesizing standard and standardized chemicals.

Indication and Analysis of Harmful Substances. This includes identification and quantitative determination in various objects of the environment of a broad spectrum of poisons, including micotoxins, phytotoxins, and examples of chlorine-fluorine-organic chemistry. Trace monitoring and recommendations on the methodology for detection of harmful chemical compounds in the air, water, and food products are additionally guaranteed.

Toxicology of Harmful Substances and Compounds. They propose laboratory diagnosis of diseases and kinetic and dynamic research of pathogenesis to discover the mechanism of operation, danger (based upon the parameters of toxicity) of vapors and aerosols for specific biotargets.

Individual and Group Protective Systems at Harmful Industries. While proceeding from the labor conditions, the certification of job sites, and comprehensive experimental tests, we will ensure their optimal selection (including from the appropriate armed forces table of equipment) for the following operational and ergonomic indicators: air tightness against vapors, aerosols and liquids; and, filter-absorbing, physical-mechanical, thermal protective, and heat-stable properties, and incombustibility under the impact of an open flame. Furthermore, based upon the order's desire, we will design group protection systems from physiologically active substances based on balanced ventilation.

Radiation Monitoring. Here we propose measurement of the levels of total gamma background, alpha and beta contamination of the surfaces with a search for sources of radiation, radiometric and gamma spectral analysis of samples of the external environment and food products, study of the radiation effects under an exposure of various objects by a static gamma field of energy 0.66 and 1.25 MeV and with doses of up to 10^6 rads.

Neutralization of Harmful Substances and Compounds. In this sphere, we plan to develop modern technologies for the destruction of substandard chemicals, including pesticides and herbicides and also recommendations for the elimination of the aftereffects of chemically dangerous accidents in industry and transportation. Our tested decontamination methods for various types of equipment and buildings using electrochemically activated water and salt solutions merit attention. We will propose paint and varnish and other coatings that have self-disinfecting properties and new formulas for combating agricultural pests to those who desire it.

The ecology and the protection of labor in harmful industries. We will study the sources of the formation and entry of various chemicals into the environment and their conduct and we will design systems for cleaning wastes from industrial facilities based upon individual projects. We propose an entire collection of physiological-hygienic research: determination of the degree of contamination by microorganisms of inhabited sections, office and industrial buildings, and the level of their dust content; an assessment of the ergonomic indicators of protective clothing and work sites to prevent professional diseases; hygienic standards and analysis of genotoxicity, mutagenesis of chemical compounds of various classes in industry; and, monitoring of the state of health, substantiation of the standard measure of safe changes of physiological, biochemical and immune indicators of an organism.

Technology and Field Work. We envision the development of agricultural lands and animal husbandry structures using special machines and also assembly of universal on board instruments and assemblies to combat field and garden pests, and for washing, whitewashing and painting buildings and equipment. There already are ready-made variations of technologies for cleaning standing waters of chemicals, tanning and other enterprises, design solutions for small cleaning equipment of water from open water sources, technical systems for remote extinguishing of flare fires in the petroleum industry and also regulated initiation of snow avalanches. We can propose foam-explosive compositions and thermal vacuum components for explosive forming, welding and reinforcement of workers organs equipment that is being used to fracture rock.

You can obtain more detailed information with a direct request to the Russian Federation Ministry of Defense Shikhany Scientific Research Institute.

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Political, Economic Woes Beset Baykonur

MK0902131993 Moscow NEZAVISIMAYA GAZETA in Russian 9 Feb 93 p 6

[Anatoliy Zak report: "Cloudy Winter in Baykonur. Russian Space Rocket Test Site Facing Problems on Earth and in Space"]

[Text] While final preparations were under way at the Baykonur cosmodrome for the launch of the spaceship Soyuz TM-16, other events equally important to the future of Russia's space industry were also happening at the country's main space port. During these days representatives of the topmost echelon of our space program came here to see with their own eyes the present-day state of Russia's rocket site on Kazakhstan's territory. The specialists were accompanied by a large group of people's deputies, including Aleksey Adrov, chairman of the Soviet of the Republic Commission for Transportation, Communications, Information Science, and Space.

This trip gave Russia's legislators an opportunity to meet with representatives of Kazakhstan to attempt to remove the uncertainty over the cosmodrome's status in relations between two CIS members. The main problem is still the failure to implement interstate agreements on Baykonur which were concluded on 25 May last year with the intention of settling the sides' mutual claims. Now, in the view of cosmodrome chief A. Shumilin, a special mechanism needs to be created, capable of putting the earlier agreements into effect.

Probably the main cause of disagreement is the extent of the sides' financial participation in maintaining the site. According to the Russian side's figures, Kazakhstan's present contribution accounts for 6 percent of a total sum of 28 billion rubles [R] allocated to Baykonur. "And they're my bosses," one of the Russian deputies protested on this score. For their part, Kazakh officials say that apart from the purely financial contribution, Russia should bear in mind the huge areas of land removed from the republic's sphere of agricultural production.

Another important problem is the Kazakh leadership's claims relating to control of the cosmodrome's infrastructure and military units, and the questions that arise in this context among the officers, most of whom consider themselves citizens of Russia. Even now, on the streets of Leninsk (as the residential zone of the cosmodrome is called) in the evenings you can see the dark windows of many empty apartments. While the cosmodrome's important guests were giving a press conference for journalists, a group of young officers gathered at the entrance to the Cultural Center, where the meeting was taking place, to demand immediate discharge from the army. The difficult living conditions at the site are not the only reason for this; there is also the uncertainty over its political future. To be fair, it should be said that many representatives of the cosmodrome acknowledge that the president of Kazakhstan is showing great tact and restraint.

One way or another, it is clear that the cosmodrome's future will depend on the financing of the space program in Russia. This year R34.5 billion has been allocated for space research, covered by a single line in the Russian state budget. Now the Adrov group's aim is to secure the Supreme Soviet's adoption of a space budget where the total sum will be distributed to specific programs.

The seething political passions are nonetheless not stopping the intensive work at the cosmodrome's launch sites. Last year 23 satellites out of the 48 launched by Russia were put into orbit from Baykonur. In the same year the United States, Europe, China, Japan, and India between them sent only 39 devices into space. The current year also promises to be busy. Recently, after a series of failures, launches of the sophisticated Zenit booster rocket were resumed. Despite problems with the financing of this program and the unusable condition of one of the launch pads following the 1991 disaster, this year three or four new Zenit launches are expected.

Conversion processes have led to a completely new phenomenon at Baykonur. Preparations are currently in progress for the February launch of a modified SS-25 ICBM which, instead of nuclear warheads, will be carrying a small commercial satellite destined for use in an electronic mail system. Launches of this kind promise to make money.

At the same time, for several years now silence has reigned over the giant launch installations used by the

Energiya-Buran system. Energiya Science-and-Production Association General Designer Yu.P. Semenov, who also visited the cosmodrome at that time, rejected the idea of mothballing the complex. In his words, barring major upheavals like the complete closure of the Baykonur cosmodrome, the Buran space plane is scheduled to be prepared for its second test flight within about a year. Yu.P. Semenov stressed that his objectives include perfecting the Buran-Mir docking operation before the American Space Shuttle visits the Russian orbital complex in approximately May 1995. But many specialists here seem not to share this optimistic view. "Surely it's now clear it will never fly?" was one cosmodrome engineer's gloomy answer to a question about the prospects for a Buran flight. According to cosmodrome employees, repair and restoration work on the Buran launch complex alone will take a year. This is largely the result of the systematic pilfering of equipment from unguarded launch pads. "Everything that can be stolen, has been stolen," a launch complex expert states. In his words, components made out of copper and other metals are misappropriated by the kilogram daily.

The Energiya-Buran launch complex includes two launch pads, of which only the "left launcher" has been used to launch Buran, while the "right launcher" has been mothballed in an incomplete state. There is also a test bed from which it is possible to launch Energiya rockets without Buran. There is also a landing strip designed to take a shuttle craft, but experts claim that it no longer has the capability for an automatic landing by an unmanned space plane, as was brilliantly executed in 1988.

UKRAINE

Navy CINC R-Adm Kozhyn Assesses Force After First Year

93UM0483 Kiev MOLOD UKRAYINY in Ukrainian
2 Apr 93 p 1

[Interview with Ukrainian Navy Commander Rear Admiral Borys Borysovych Kozhyn by MOLOD UKRAYINY staff correspondent Volodymyr Prytula under the rubric "Topical Interview": "Admiral B. Kozhyn: 'Ukraine Has a Mighty Fleet, Because the People Want One!'"]

[Text] *These days make a year since President L. Kravchuk issued the Edict on the creation of the Navy of Ukraine and designated Rear Admiral B. Kozhyn as its commander. A year has passed, and it is certainly possible to sum up by now. That was the request I made of Borys Borysovych Kozhyn.*

[B.B. Kozhyn] This really is a time that gives us an opportunity to assess what we have been able to accomplish and what we have not, what are our achievements and what are our mistakes. I don't want to be trite, but I would say that the most important thing that we have today is the people, our patriotic and highly professional cadres. We are almost fully formed, after all, and the staff and directorates of the Navy of Ukraine are manned at 60 percent. Several crews for combat vessels have been formed. We have highly qualified specialists and officers with academic degrees, and the graduates of the General Staff Academy are arriving. It was just a year ago, you will recall, when we had only the Edict of the President on my designation and nothing more.

There are several Ukrainian military vessels in the Bay of Sevastopol today. The readers of your newspaper certainly already know that the patrol craft "Hetman Sahaydachnyy" recently arrived in Sevastopol. This is a modern ship fitted with the latest technology. It is undergoing cruising trials at sea today. With regard to our shipbuilding program, the yards of Mykolayev, Kherson, Kerch and Feodosiya are currently building new ships for the Ukrainian Navy—from patrol craft to a missile cruiser. We will receive no fewer than six of them before the end of this year. I think that Ukraine will be entirely able to build ships of new designs for its own navy as early as 1996-98 with the realization of the aforementioned program. Some of the outfitting is currently being done in other countries of the CIS.

We are trying to structure all service in the Ukrainian Navy on fundamentally new moral and psychological grounds. I believe, in particular, that it is only possible to demand complete devotion from an officer or warrant officer when we provide him with everything necessary. And we intend to make that principle the foundation of our activity. We are devoting particular attention to the housing issue. Specialists in one of the directorates have worked out several programs for the construction of housing. Their realization will provide an opportunity to

obtain more than 630 apartments for the servicemen of the Sevastopol garrison. I think that those apartments will be built despite the unstable economic climate. We constantly feel great attention and support on the part of the Ministry of Defense of Ukraine and the Chief Directorate for Capital Construction and the Quartering of the Troops, headed by Lieutenant-General D. Rudkivskyy. Although there are, of course, still quite a few problems. Here is one: the pay for servicemen in the Ukrainian Navy is barely half of that for the Black Sea Fleet. That, I think, will be rectified.

The Navy of Ukraine is receiving essential moral and material support from the public in all regions of Ukraine. We feel the assistance of all the people of Ukraine. I am thus confident that we will have a mighty Navy, since the whole Ukrainian people wants one. Taking advantage of the opportunity, I would like to thank the leaders and residents of Ivano-Frankivsk, Lviv, Volyn, Zaporozhzhya, Ternopil and other oblasts of our nation for their assistance. Several weeks ago we received a gift of 30 tonnes of produce from Rohatynskyy Rayon in the Ivano-Frankivsk region. And what a good deed was undertaken with books by your newspaper! I thank all who support our fleet in the difficult period of its emergence in the name of the Ukrainian Navy command. Let the citizens of Ukraine know that everything they have sent has gone for the benefit of the sailors. And another thing—I have seen over this year, as never before, the living incarnation of the lofty patriotism and self-awareness of the people as manifested in their nation-building, and in particular in the building of the Ukrainian naval forces.

[V. Prytula] Admiral, please tell us, if you can, what the Ukrainian Navy will be like?

[B.B. Kozhyn] We are working out a conceptual model for the naval forces of Ukraine that will become a structural part of the military doctrine of our state. The principal military-political tasks of our fleet, in accordance with it, are protecting the national interests of Ukraine in the oceans of the world, fulfilling its duties in strengthening international security according to the UN Charter and most importantly, of course, protecting the territorial integrity of our nation. In peacetime we will be ensuring the constant combat readiness of the Navy to repel aggression from wherever it may come, and we will maintain a normal operating regimen in our zones of responsibility and guarantee the protection of all types of activity of the state in the oceans of the world. I do not think I should discuss our tasks in wartime, and I hope they will not have to be fulfilled anyway. The Ukrainian Navy is composed in general of surface forces, formations of submarines, naval aviation and coastal troops. The Ukrainian Navy will have ships of all classes, both ASW and missile craft, air-cushion vessels and sweepers. Everything, that is, that the fleet of a maritime nation should have.

A program is now being developed for the construction of modern submarines, utilizing the base and experience of Ukrainian shipyards.

[V. Prytula] Is the movement of Ukrainian ships beyond the bounds of the Black Sea planned in the future?

[B.B. Kozhyn] Yes. That flows from our concept of the Navy of Ukraine. Ukraine is a maritime nation that has a large fishing industry. One of our tasks is to protect the fishing vessels, and provide for their safe production activity in various regions of the world. The ships of the Ukrainian Navy will also be providing escort for large oil tankers, especially when they are passing through areas of local conflict. We see here the necessity of utilizing the naval forces of Ukraine to support the economic activity of our nation. We thus have interests beyond the bounds of the Black Sea.

[V. Prytula] As well as friendly calls to foreign ports, of course...

[B.B. Kozhyn] Yes; although it is not the most important thing, the banner of the state needs to be affirmed around the world. And that should be done by our naval vessels. Taking advantage of the opportunity, I would like to ask the people's deputies to approve the Naval Ensign of Ukraine. I understand that there are many more important issues, but this one is not secondary either. All the more so as we long ago sent all of the necessary documents and sketches to Kiev. This is very important to the sailors.

[V. Prytula] Ukraine, as a co-founder and active member of the United Nations, could obviously offer its naval forces for the performance of tasks within the framework of decisions by the leading bodies of the UN?

[B.B. Kozhyn] I think that that will happen in the future. If that corresponds to the political position of our state leaders, I will make every effort to see that it is carried out.

[V. Prytula] Thank you, Borys Borysovych. Your wishes to the readers of MOLOD UKRAYINY, if you please.

[B.B. Kozhyn] Your newspaper is for the young, so I want to invite the youth to come to us, the fleet of independent Ukraine. We need strong—both physically and spiritually—young men. By the way, our Sevastopol Naval Academy is looking for anyone who wants to become a naval officer. And I wish happiness, peace and harmony to all of the readers of MOLOD UKRAYINY!

I would add to what was said by Borys Borysovych that I met with him on a Sunday—the commander of the Ukrainian Navy was up to his ears in work all other days of the week. And when I came by the admiral's office, Borys Borysovych was sitting with a book he had bought—learning the Ukrainian language. It is doubly hard for him, as for all of the sailors of Ukraine, today—he has to learn to construct the an entire fleet of an independent state. In my opinion, the admiral has achieved palpable

results both in the study of the language and in the building of the Navy of Ukraine.

Counterintelligence Deputy Chief Cites High-Level Corruption

93UM0529D Kiev RABOCHAYA GAZETA in Russian
26 Mar 93 p 5

[Article by Petr Cherniy, deputy director of Ukrainian Security Service Military Counterintelligence: "The Army Needs Protection Too"]

[Text] The primary mission of military counterintelligence is to comprehensively assist in the process of building the Armed Forces of a young state.

At first glance it may seem there was a "change of signboard": there were special departments of state security entities of the Union in military units and they became military counterintelligence departments of the Ukrainian Security Service. In reality this is not so. On the one hand, military counterintelligence functions—opposing subversive and intelligence activities of foreign special services—remained unchanged (this sphere of activity is not subject to any historical changes). It has been, is, and will be that an army will defend itself by specific methods. On the other hand, with the proclamation of our independence, military counterintelligence received a fundamentally new assignment—protecting democratic achievements of the people of a sovereign state, which in practice is reflected in comprehensively assisting state structures in Ukrainian Armed Forces organizational development, raising their combat and mobilization readiness, keeping nuclear arsenals totally inviolable, and maintaining nuclear and ecological security.

How did the first year of establishment go? I will say one thing: it was difficult, since it was also difficult for the Armed Forces. Mission accomplishment was complicated by the tension of the sociopolitical situation in the troops: thousands of homeless officers, high prices, and the discharge of young officers from service. Many deficiencies—embezzlement, lack of discipline, moral laxity—also were inherited from the old Army in the life of the new Army. It was even necessary to set up a subunit in its structure specializing in fighting organized crime. And military counterintelligence personnel managed quite properly to "rap the knuckles" of many "businessmen" in shoulderboards who attempted to profit from state property, taking advantage of the fact that organizational formalization of the Armed Forces was going on and considering the imperfection of our legislation.

I will cite several examples of our opposition to such aspirations. Illegal activity of a criminal group operating in an air division was stopped. Its makeup included Division Commander Major General of Aviation Yakunov, Chief of Staff Colonel Panshin, Battalion Commander Lieutenant Colonel Shkir, his armament deputy, Major Lyubchenko, and Lieutenant Colonel

Kustenkov; they transported scarce products out of Ukraine and sold off military property as if it were their own.

Lieutenant colonels Kalitvintsev and Tkachenko also were caught red-handed. Instead of strengthening the tank subunit's combat effectiveness, they entered into criminal ties with civilians through whom they sold military automotive equipment at speculative prices, and they engaged in various financial machinations. Military counterintelligence personnel put in a great deal of effort and professional expertise to uncover abuses of office and prove the corruption of the former leadership of Kiev Military District.

The period of the Dniester region conflict, when we prevented the penetration of armed groupings onto our state territory, detained hundreds of "volunteers" and simply criminals heading for the conflict area for "booty," and confiscated thousands of firearms was especially tense for us. The difficult labor of military counterintelligence personnel also is behind the fact that the conflagration of war did not blaze up on Ukraine's southern border. And this work continues, by the way, since where there is war and sedition there are those who wish to profit from the arms trade, and our mission is to keep weapons from proliferating in Ukraine.

One other region of social tension is the Crimea. Dubious or even openly false information disseminated by certain political forces here was an element of a purposeful act designed to destabilize the situation on the peninsula and increase tension over the Black Sea Fleet. Our analysts did everything to see that people knew the truth about the situation in the Crimea, to keep inter-ethnic hostility from flaring up, to keep the Fleet from being turned into a tool of political struggle, to keep it outside of politics, and to give navymen an opportunity to engage in combat training and protection of maritime borders.

Military counterintelligence personnel also had added work in connection with the fact that emissaries from hotspots of the former Union began to visit Ukraine more and more often with one goal: to acquire weapons. And again military counterintelligence personnel stand in the criminals' path, since all arsenals, bases and depots are under their vigilant surveillance.

REFERENCE: Last year military counterintelligence personnel prevented 167 preconditions for extraordinary events in the troops, the theft of 50 aircraft, and 200 attempts at misappropriating military property and other material values—aircraft engines, elements of missile system equipment, thousands of firearms, millions of cartridges, and thousands of kilograms of explosives. In general, military property worth over R14 billion was retained thanks to the vigilance of military counterintelligence personnel.

Social Protection Chief Backs Independent Servicemen's Union

93UM0529C Kiev VECHERNIY KIEV in Russian
17 Mar 93 p 3

[Article by Lieutenant Colonel Vladimir Lartsev, chairman, Ukrainian Servicemen's Social Protection Foundation, under rubric "News of the Day": "When Will the Military Put On Means of Protection": Trade Unions Could Become Such a Protection"]

[Text] We are building a Ukrainian Army for the sake of an independent state, for the sake of the future. Therefore we all are following this organizational development very intently. It is important to perceive all its facets... Here is one of them—trade unions.

Once Colonel (Retired) V. Saladyak attempted to prove in one newspaper that creating an independent servicemen's trade union would bring nothing but harm. But where are the arguments? As one argument Saladyak delivered a panegyric addressed to the Union of Officers of Ukraine, in which he is deputy chairman of the Kiev organization. Judging from his words, as soon as the Union of Officers of Ukraine accomplishes all tasks of Ukrainian Armed Forces organizational development, then it will immediately take up servicemen's social problems. Therefore he says to wait to create a trade union.

My opponent's second argument was the assertion that allegedly the creation of a trade union is fraught with weakening of one-man command in the Army. In fact, specifics of the military organization do not permit using such means of protecting one's social interests as strikes and nonfulfillment of orders and instructions of superiors traditional in civilian life. But the fact that in armed forces of the FRG, Italy, France, Sweden, Norway and Belgium the spheres of activity of the command element and servicemen's national trade unions are successfully "divorced" indicates that if we take the legal and other aspects of this problem, it does not represent a great difficulty.

Enemies of trade unions frighten everyone by the inevitability of the appearance of a large TO&E apparatus of a new social association, but that is not the crux of the matter. This is. Creation of a trade union will prove once and for all that the existence of the Committee on Servicemen's Social Protection under the Cabinet of Ministers is unnecessary. That's it! The "strength" of the latter is around 40 persons in Kiev, and there are representatives in all oblast cities of Ukraine. As shown by experience of armies of Western European countries a servicemen's trade union can get by with considerably less of the freed-up apparatus. Expenditures for its upkeep will be paid not from the state treasury, but from social funds. For example, even Colonel Rolf Wenzel, a representative of the Bundeswehr Servicemen's Union, receives money not from the FRG Ministry of Defense.

but from his own social organization. And this is well, for he does not depend on state structures; he boldly defends social rights and interests.

The readers may ask why trade union functions are not performed by other servicemen's social organizations? Of course, we have a committee of homeless officers and warrant officers of the Kiev garrison, and it works rather well. But its sphere of activity is limited only to housing questions and to the capital region. The social base of the Union of Officers of the Ukrainian diaspora also is narrow.

The Kiev Union of Social Protection for Servicemen, Retirees and Their Families was established as a base for subsequent formation of a trade union. Sozidatel existed for one and one-half years as an oblast social organization. A constituent congress of the Ukrainian Sozidatel Union of Servicemen's Social Protection was held on 20 October 1992, but during registration of its documents in the Ministry of Justice, the latter (in my view, fearing competition to the Union of Officers of Ukraine) found a formal pretext not to register our organization as an all-Ukrainian Union. It is surprising, for the Ministry of Justice almost simultaneously registered an actually non-existent Sokol Union of Young Officers of Ukraine. So Sozidatel became a foundation.

Now you see the focus. Under existing legislative practice, trade unions are not registered in the Ministry of Justice, and so the new social organization of servicemen is insured against such intrigues.

There are discussions and there are discussions, but the housing problem must be solved. This is what an independent trade union would engage in, and it also would plead for raising the pay of Ukrainian servicemen.

In order to alleviate the ordeals of homeless officers and warrant officers at least in some way, the trade union would have to fight to raise their monetary compensation for renting housing up to, let's say, an amount of three minimum wages.

In case of its establishment, a trade union could insist on allocation of funds from the state budget and thereby remove from the agenda the question of retraining servicemen being discharged from the Army for civilian specialties.

The strength of any trade union lies in material means of social insurance which it has. Yes, we know the Cabinet of Ministers allocates money for solving social problems, but how do they "work" on social problems of the Army? It is not apparent. An independent servicemen's trade union would try to get these finances transferred to its control.

Also of no small importance is that creation of an independent trade union of servicemen of Ukraine will allow shifting the objectively growing social activeness of officers and warrant officers from political to material

and everyday "rails" under present conditions. Moreover, a trade union can serve as a convenient tool for exerting civilized pressure on supreme authorities when the latter ignore or delay a solution to urgent social problems and it is inconvenient for the Armed Forces leadership to exacerbate relations with them.

Nuclear, Conventional Weapons Policy Discussed

93UM0529B Kiev GOLOS UKRAINY in Russian
27 Jan 93 p 7

[Article by Major Aleksandr Tkach, candidate of technical sciences, and Major Yuriy Dobryshin, candidate of technical sciences, under rubric "Military Doctrine": "Armor Is Strong, Our Missiles Swift"]

[Text] Ukrainian military doctrine presently is being revised and in the near future the question of the numerical strength and structure of our state's Armed Forces will rise acutely. If we orient ourselves toward modern world experience in military organizational development, the numerical strength of armed forces of the majority of developed states is on the order of 0.8-1.0 percent of the overall size of the population. Ground troops, which are the basis of these states' armies, have 65-70 percent of the overall number of personnel. Tanks continue to be their main striking force, because there still is no other weapon in the entire system of arms and military equipment of ground troops capable of accomplishing a wide range of combat missions more effectively.

There also is indirect evidence that tanks are being given a very serious place and role in the system of arms of ground troops. This is above all the steady growth both in numerical strength of tank parks and in the number of tank-building states. Thus, while tanks were being produced only by 5-6 states in the early 1960's, now they are being developed and produced by at least 20. In Europe they are France, England, Italy, Spain, Sweden, Switzerland, Germany, Russia and Ukraine. With respect to tank production, in 1990 the USSR produced around 1,700 tanks, the United States 576, and Ukraine's neighbors Poland and Czecho-Slovakia produced around 700 T-72 tanks a year under Soviet license according to 1985 data. Russia produced almost 1,000 tanks in 1991.

Around 30 percent of the tank park of the former USSR Armed Forces stationed in Europe is concentrated in Ukraine. Under international agreements to which it acceded, Ukraine is authorized to have no more than 4,080 of the 6,318 tanks.

Preliminary calculations made with consideration of Ukraine's geopolitical position; the nature of its relations with contiguous states; an analysis of conditions of the presumed theater of military operations, of the makeup and structure of the tank park of Ukraine's neighbors, of the concept of combat employment of tanks stemming from Ukraine's defensive military doctrine, and of existing operational-tactical and armored vehicle logistic and training standards; and also the presence of the

necessary reserve of tanks required for replenishing the tank park in conducting defensive operations permit substantiating a lesser number of tanks in Ukraine's tank park.

As of today there is no state bordering on Ukraine except perhaps Belarus where there would be no political forces advancing territorial claims on the young independent state. In case they come into power, these forces may attempt (God forbid, of course!) to realize their plans. Pressure of all military coalitions on Ukraine also is possible at the same time, and withstanding it is not within one's capability even, for example, with the tank park of Iraq (around 10,000 vehicles) in the last war in the Persian Gulf. In this case Ukraine's nuclear weapons, whose reduction must be approached in a very weighed manner, could become a deterrent factor against any military coalition.

A very important task of Ukrainian diplomacy is not to allow establishment let alone unification of those military coalitions, on the one hand, and to substantiate at an international level the need for a partial reduction of Ukraine's nuclear potential at the present stage on the other hand. But its rapid resolution is very problematic. Although nuclear weapons on the territory of Ukraine and which are its property unquestionably must be gradually reduced and destroyed under international control, it is simply unreasonable to give it all up entirely (as already has managed to be done with tactical nuclear weapons). Keeping a nuclear potential even reduced by half in the Ukrainian inventory (it is necessary to accede to the Treaty on a Reduction of Offensive Nuclear Arms with certain reservations to avoid international isolation) in combination with the commissioning of at least one air-capable ship will allow it to reduce the proposed number of tanks by approximately half. Expenditures for maintaining Ukraine's nuclear potential remaining in the inventory in a combat-ready state will not exceed the cost of several dozen tanks. At the same time, the combat effectiveness and combat performance of that number of tanks are incommensurate with similar indicators of even half of the 1,280 nuclear warheads stationed in Ukraine.

Considering the circumstance that Ukraine's western neighbors are repeatedly petitioning for entry into the NATO defensive alliance, which can substantially alter the balance of forces on Ukraine's western borders, the question arises about Ukraine concluding appropriate non-aggression treaties both with republics of the former Union as well as with countries of Eastern Europe while preserving its non-bloc status.

But if we proceed from the ratio of the number of tanks in Ukraine to their number in the East or West, the figure of 2,300-2,800 tanks is fully sensible for the Ukrainian Armed Forces from the standpoint of effectiveness in performing defensive missions.

The correctness of calculations is indirectly confirmed in the example of France, which, possessing a nuclear

potential and a modern Navy and Air Force like Ukraine, has a tank park of 1,600 vehicles, which corresponds to known tactical ratios (1:3) necessary for repelling a possible massed employment of 4,800 tanks by Germany.

Rates of S&T progress in the military area are such that while tanks previously were modernized every 10-15 years in peacetime, now it is done every 5-6 years.

Calculations show that for a major overhaul and modernization of the 2,000-2,500 tanks making up the basis of Ukraine's tank park in the future, it is necessary to send 400-500 vehicles to tank repair plants each year.

As of today Ukraine has five tank repair plants which perform major overhaul and modernization of tanks. Their production capacities must suffice for performing major overhaul tasks on condition of supporting vehicles being repaired and modernized with set-making articles, the majority of which Ukraine will be able to manufacture on its own. Thus, upkeep and upgrading of Ukraine's tank park of approximately 2,500 vehicles, commensurate with tank parks of developed European states, is economically, tactically and technically feasible and justified.

And so Ukraine's preservation of non-bloc status in the foreseeable future (even on condition of a reduction in the number of nuclear warheads by half) along with accession to international agreements on a reduction in offensive arms will permit reducing the existing tank park to a level of reasonable sufficiency, in the future comprising approximately 2,500 new-generation vehicles. It is advisable to direct budget funds freed up from this (at least \$3-4 billion) toward converting the nuclear potential being reduced; keeping remaining units of strategic deterrence forces in the inventory in a combat-ready state; and modernizing conventional weapon systems and military equipment, including armored equipment, with their subsequent sale on the world arms market, which should be viewed as a main source of currency earnings for swift resolution of servicemen's social problems. This money also could suffice for completing the construction and commissioning of a Ukrainian aircraft carrier, which is a very important element of the system of defense of Ukraine's southern borders.

Socio-Psychological Service Rejects "Repoliticization" Charges

93UM0529A Kiev *VECHERNY KIEV* in Russian
8 Apr 93 p 2

[Article by Ukrainian Armed Forces Socio-Psychological Service Press Center under rubric "Military Affairs": "Is 'Repoliticization' of the Army Occurring?"]

[Text] A study by the information analysis group of all materials available to it showed that attacks on the Ukrainian Ministry of Defense, on the Socio-Psychological Service and on its chief are being made by those people who, while trying to make a mountain out

of a molehill, cannot especially see even a mountain and resort to misrepresentation, juggling of facts, slander, known false rumors and direct fabrications (up to and including forging of signatures). In articles with the rhetorical questions "Whence the Ukrainian Army?", "Whose Ideology Is Taking Root in the Army?...", "To What God Will We Pray?" and "Is the Minister of Defense Retiring?" they accuse Major General V. Mulyava and the service he heads of "repoliticizing" the Army. But as a matter of fact, is repoliticization of the Army occurring? If it is, is it needed? And what should it be like?

The fact that the former Soviet Army was an army of a state called the USSR is certainly known to all. We also know that not simply for decades, but for over 70 years CPSU policy—a policy "unified and indivisible," a policy which in its essence was imperial, great power-chauvinistic, colonial with respect to national minorities, and directed toward their denationalization and Russification—was introduced to and implanted in the Army and hammered into heads by repressive methods. A change of name and then also elimination of party-political entities did not change for a single night or even a single year the political orientation and ideological aims of a considerable number of former executors of that policy and ideology. This can be discerned in the essence, content, methods and techniques of their work, in their very manner of activity, behavior and life, and in their style and manner of problem-solving.

The process of depoliticization in the sense of overcoming former imperial-capetian policy and ideology is going on in the Ukrainian Armed Forces with great difficulty and not simply, but still it is going on. This work is done by the Socio-Psychological Service.

The only policy to whose position the Socio-Psychological Service and its chief are trying to shift the Ukrainian Armed Forces is one of ensuring Ukraine's statehood, independence and territorial integrity. And in this sense the Service in fact is carrying on a repoliticizing process. The idea of Ukraine's state independence and the public basis of its lands is that state idea, that ideology, if you like, around which the Socio-Psychological Service and everyone who supports it are striving to structure the Army. If policy is understood to mean a purposeful activity, then this is a policy which must be professed and to which all employees, workers and, of course, servicemen—generals, admirals, officers, warrant officers, sergeants, privates and seamen—must adhere in Ukraine's military units, both on active duty and in the reserve!

Those who speak out louder and louder in Supreme Soviet sessions and in the mass media against "repoliticizing" the Army are merely craftily playing on words, terms and concepts, attempting to keep the essence and content of repoliticization outside the bounds of attention, but they actually are trying to safeguard a capetian, imperial-Russifier policy and ideology in the Army. They hush up the sociological direction and practical

work of the Socio-Psychological Service, which is aimed at building social relations of a new type in the troops, a psychological direction of relations and intercourse in military collectives. The concept calls them nonrepressive intercourse and nonrepressive methods of problem-solving and of directions of socio-psychological support of discipline and order. And all this comprises directions of real, practical, not just departization, but also depoliticization of the Army, directions that are profoundly democratic and humanistic. Our opponents stubbornly and consistently intimidate both troops and society with transformations in the Ukrainian Army and intimidate them with the Socio-Psychological Service. They identified the Socio-Psychological Service absolutely groundlessly with former party-political entities.

If one were to analyze who is the author of all those groundless accusations and slander, the explanation turns out to be quite simple: former Communist Party leaders, present Socialists, a general's son who was not accepted for service in the Socio-Psychological Directorate, a general/papa whose son was given a negative appraisal by the Socio-Psychological Service, and one or two others similar to them in their painful dullness and enticed by promises of high posts (in case of victory).

And how about the troops? Well, no matter how much they were intimidated, they still understood.

The Minister of Defense recently wrote already the third address to the troops with a proposal to discuss at officer meetings the situation in the Ukrainian Armed Forces and problems of their organizational development and vital activities, also including regarding the Socio-Psychological Service. Here is what the troops say about this: "Stop asking our opinion of the Socio-Psychological Service. There was a decision to establish it, the concept has been adopted, and now main efforts must be aimed at forming it.

"Its structure and goals and the tasks facing it have been defined with consideration of international experience. It is time to stop terrorizing this Service as well as Major General V. S. MULYAVA personally, who heads this service, in our press." It was signed by Major General O. F. OLIFEROV, commander of the Western Air Defense Area.

And here is what Colonel-General V. T. SOBKOV, commander of Carpathian Military District, said:

"The need for this service gives rise to no doubt among officers. Meanwhile, we suggest the following to improve the effectiveness of its work:

"Give all assistance and support to efforts being made by the leadership of the Ukrainian Ministry of Defense Socio-Psychological Directorate and by Major General V. S. MULYAVA personally to introduce to practical life the concept of the Socio-Psychological Service approved on 13 December 1992."

The fact that the troops already have understood to a considerable extent the lack of objectivity of attacks on the Socio-Psychological Service also is confirmed by a discussion of problems in Odessa Military District. Its commander, Colonel General V. RADETSKIY, wrote about this:

"I report that your address to officers was discussed with officers of directorates, commanders of formations and units, and officer personnel at official conferences.

"Creation of the Socio-Psychological Service in the Ukrainian Armed Forces is a timely and very necessary step. Its establishment, especially on a professional plane, is vitally needed. Commanders of various ranks reaffirmed this during the discussion. In the opinion of the majority of officers, attacks on the Service must end. Give it a chance to get on its feet and allocate necessary materiel and funds for training Socio-Psychological Service specialists, including in civilian higher educational institutions and at courses. The officers believe this process must be accelerated."

Telegrams and resolutions of officer meetings which have come from the troops are of a businesslike nature, and officers await the resolution of problems.

And here is the opinion of the officer meeting of Military Unit 11038:

"The Socio-Psychological Service is necessary, but the scope of its responsibility must be concretized. It is time to stop defaming the Service that is being newly created. Leaders of the Armed Forces, above all the Ukrainian Minister of Defense and the CinC Armed Forces, must speak out on that question in the press."

The time has come to reckon with the opinion of the troops, not with a biased handful of irresponsible shouters.

BALTIC STATES

Russian Troop Watch Report

934K1027A Tallinn THE BALTIC INDEPENDENT
in English 9-15 Apr 93 p 3

[Article compiled by Lya Oll]

[Text]—The issue of troop withdrawal from the Baltics will not be settled until direct talks are held between the Russian defence minister and his Estonian and Latvian counterparts, Defence Minister Pavel Grachov said during a meeting with leaders of the Leningrad military district (March 31). The statement on the suspension of troop withdrawal from the Baltics made in Brussels was caused by the "rigid, short-sighted policies" of Estonia and Latvia, he said. Estonian Defence Minister Hain Rebas has announced he would be ready to meet with Mr. Grachov "at any time".

—Russia's Baltic navy will not endanger navigation in the waters of the Baltics to increase the competitiveness of the Russian ports of St. Petersburg and Kaliningrad, according to Yuri Sidorov, head of the Baltic navy hydrography service. He put poor maintenance of navigation aids down to lack of resources (March 31).

—Lithuania's Foreign Ministry sent a note of protest to the Russian Embassy in Vilnius over the statement of the Russian defence minister at the NATO Co-operation Council session to halt troop withdrawal from the Baltics (March 31).

—The withdrawal of Russian troops from Lithuania is proceeding according to schedule, Major General Sergei Petrov, commissioner of the Russian Defense Ministry for the troop withdrawal from Lithuania, said on April 1. He said no instructions to suspend the withdrawal have been received from the military leadership in Moscow.

—Between March 28 and April 5, the Lithuanian authorities registered 55 unsanctioned flights by Russian air force planes in Lithuanian airspace.

—Lithuanian border guards detained a Russian army officer from army unit No. 25006 on the Moscow-Kaliningrad train who carried a large quantity of hunting cartridges (March 29).

—The Russian air force's north-western headquarters ordered Lithuanian authorities to clear an air corridor for destroyer aircraft BN 24842 that was passing through Lithuanian airspace on a flight from Chernikhovsk in the Kaliningrad region to Daugavpils in Latvia (April 1).

—Lithuanian border guards in Kybartai detained two Russian army officers from unit No. 11929 on the Kaliningrad-St. Petersburg train travelling without permits (April 3).

—Lithuanian border guards at the border checkpoint of Joniskis detained two Russian army officers travelling without permits (April 3).

—Since January, the Latvian navy has taken control of 17 military structures at the Russian naval base of Bolderaja near Riga (March 31).

—In March, Latvian authorities registered 57 unsanctioned flights by Russian air force planes in Latvian airspace; two illegal entries by Russian navy vessels into Latvian ports; six instances of illegal movement of three columns of army trucks and three separate trucks on Latvian roads; 135 attempts of illegal entry by Russian troops.

—Russia supports speedy withdrawal of troops from the Baltics, being ready for "constructive co-operation".

according to a statement of the Russian Foreign Ministry; the statement also accuses the three Baltic States of unwillingness to negotiate the issue with Russia (April 2).

- The Estonian border guards detained the Russian navy vessel BDK-130 which attempted to take 20 trucks and 18 containers of communication equipment out of Estonia without proper permission (March 31).
- The number of Russian troops left in Estonia was put at 7,600 by the head of the Russian delegation for talks with Estonia, Vasili Svirin (April 2). This was the first official figure ever given by Russia. Full information on the troops' equipment was also provided.
- Head of Russia's Baltic navy hydrographic department, Captain Colonel Yuri Sidorov, claimed evacuation of navigation equipment from Estonia had been lawful as the equipment had only been "temporarily stored in Tallinn on transit from Lomonosov near St. Petersburg to Baltijsk in the Kaliningrad region" (April 2). The vessel of the Russian navy hydrographic service left Tallinn without permission on March 26, carrying more than 20 tonnes of various navigation equipment.

Retired U.S. Colonel Named Head of Estonian Armed Forces

93UM0538B Moscow KRSNAYA ZVEZDA
in Russian 30 Apr 93 p 3

[Article by KRSNAYA ZVEZDA's Valeriy Gromak and Vladimir Urban: "Commander 'Discharged' From the USA: The Estonian Army Will Be Headed by Retired American Colonel Alexander Einseln"]

[Text] Last week, factions of the Estonian State Assembly began discussing the proposal by President Leyanart Meri to name retired American Colonel Alexander Einseln commander of the republic's armed forces. As it became clear, the veteran (he is Estonian by nationality) received the invitation from the head of state back in December of last year, but only came to Tallinn on 20 April.

Incidentally, the following day his candidacy had already been scrutinized by members of the "Moderates" ruling coalition and deputies of the National Independence Party. The president's proposal was approved. Characteristically, Einseln himself, on his arrival in Tallinn, announced to journalists that there were still "certain formal obstacles" which prevented him from immediately taking the post offered, but these obstacles were surmountable.

By the way, for those who follow the Estonian press, the "obstacles" have been known for a long time. Back at the beginning of April Estonian Minister of Defense Hain Rebas told a correspondent of the newspaper POS-TIMEES that Einseln's appointment was being dragged

out due to "left-leaning bureaucrats in the State Department of the USA." But there is also some evidence that the Defense Department of the USA has not objected to the retired colonel's returning to his native land, while the State Department is merely afraid of "possible protests on the part of Russia."

But who is this Einseln? He is 61 years old, he participated in the Korean and Vietnam wars, he commanded motorized infantry and special divisions. He has served on the staff of the U.S. infantry and in other high administrative structures. He retired eight years ago.

Incidentally, Estonian Defense Minister Khayn Rebas is also an Estonian of Western extraction. He graduated from a university in Sweden, is a professor, and has worked in the FRG. He is a member of the National Independence Party of Estonia. From 1989 to 1990 he represented Swedish Estonians in the right-radical committee of Estonia.

And so the leadership of the Estonian Army now has only one officer from the former Soviet Army—Chief of Staff Colonel Ants Laaneots, the former military commissar of the city of Tartu. But experts believe that with the arrival of Einseln he will lose his earlier role in the formation of military policy.

Similar tendencies are also observed in the Latvian Army. For some time now the post of deputy minister of defense has been occupied by Valdis Pavlovskis, a Latvian of American extraction. In the Latvian Ministry of Defense he is in charge of defense planning, mobilization, foreign liaison, and cadres. Pavlovskis was a captain in the U.S. Marines, served for a time in South Vietnam, and was an instructor for tactics in an officer's training school.

Pavlovskis actively supports inviting reserve officers in the West who are ethnic Latvians to come to Latvia as instructors. And there arrived recently Pauls Karetskis, retired colonel of the American army, who became a military advisor in Latvia.

CIS: AIR, AIR DEFENSE FORCES

Nagorno-Karabakh Military Manpower Resources

934K0917B Yerevan AZG in Armenian 12 Mar 93 p 2

[Article, published under the heading "Karabakh," by Armen Baghdasaryan: "Fundamental Preconditions for Victory"]

[Text] Perhaps it is no longer a secret to anybody that the outcome of the Karabakh War is being decided not only on the battle front and that the war is not only a Karabakh-Azerbaijani conflict, but a clash of interests of world powers, each of which has its precise interests in the piece of land called Karabakh. At the same time, however, it would be incorrect to assume that combat activities proper have no influence on the final outcome.

In the final analysis war is the reality, and that war is being prosecuted by Karabakh and Azerbaijan, face to face.

Map of Present-Day Karabakh [not reproduced]

The Azerbaijani propaganda machine has been trumpeting all over the world the claim that in actual fact Armenia and Azerbaijan are engaged in war in Karabakh, to such an extent that we ourselves almost believe it. If the propaganda is not about the "Armenian expeditionary corps" fighting in Karabakh, it is about the dozens of tanks moving through the Lachin corridor, or about the battalions of the Russian 7th Army deployed in Armenia. The truth is that the Karabakh Army, which began forming approximately one year ago, having at its disposal a grand total of a few beat-up armored reconnaissance vehicles, is presently fighting against Azerbaijan on a practically equal basis with the Azerbaijani National Army, possessing a fully sufficient quantity of weapons and equipment. And this is due not to tanks and armored reconnaissance vehicles which supposedly are being sent through the Lachin corridor (Armenia has an approximately 900-kilometer-long common border with Azerbaijan, and that border must be guarded at all times), but thanks to combat equipment seized from the Azerbaijanis. At least 80 percent of the tanks, armored fighting vehicles and artillery armament of the Karabakh Army are marked with the Azerbaijani tricolor flag. These markings are intentionally left in place, and the true Karabakh tricolor is placed above them.

It is true that Armenia helps Karabakh: the field packs of soldiers going on duty almost always contain bread, tea and half a can of canned food daily, and if there are cigarettes also, duty is less of a chore. But war remains war, and the Karabakh Army is perhaps the only place where Armenia's economic difficulties are truly comprehended. The small number of volunteers from Armenia serve more as purely moral support: back on the home front there is Armenia ready to do its bit for Karabakh. Nevertheless the heavy, daily and unseen work is on the shoulders of the Karabakh Army.

In Karabakh, and especially in the cities, they regard with distrust the myth of Azerbaijan's economic might, a myth which is being given much currency in Armenia. And that is understandable. The de facto loss of Nagorno-Karabakh in itself was a big blow to the economy of Azerbaijan, and many facts indicate that, contrary to all logic, Azerbaijan is the first to yield. It is no mere coincidence that former Azerbaijani prime minister Rahim Huseynov recently announced that two thirds of Azerbaijan's national income is being spent on the war. And in one of the February issues of MOSKOVSKAYA PRAVDA a specific figure of 80 billion rubles a year is stated. And in this connection it is perhaps to Karabakh's advantage that it is not part of a warring state but is a state at war, which has to its rear a state which, though economically reeling, is nevertheless

not at war. In Azerbaijan as well there are certain tendencies to blame economic difficulties on the war; therefore the stated figures may be slightly exaggerated. But fact remains fact, and the fact is that Azerbaijan cannot endure even economically. In addition, when mortar shells explode in the trenches and fragments tear up the soldiers' field packs, when the tea in the backpack mixes with tobacco, and the Armenian soldiers, with throats dry from tea adulterated with tobacco, take enemy positions and find foreign-made canned goods and cartons of cigarettes, they begin to understand that not everything is decided based solely on economic might.

There exists one more circumstance, on the battle front any defeat creates "fertile soil" for the next defeat. Under the given circumstances, however, this refers only to the Azerbaijani Army, the common soldiers of which realize that they are trying to seize someone else's land not defending their own native soil. It is not mere happenstance that even the Lachin people, who had left their homes approximately one year ago, organized a protest demonstration on 5 February in Baku against Azerbaijan President Abulfaz Elchibey's edict, which declared a general mobilization in the Lachin area. In Stepanakert I was told about a young man whose house was demolished by a Grad rocket projectile and who, following this, left for the front and destroyed five Azerbaijani tanks.

Now about manpower resources. When, on the one hand, dozens of Azerbaijani soldiers cross the front lines, voluntarily surrender and ask to be sent to Russia via Armenia (there have been such cases), and on the other hand a 14-year-old unarmed Armenian boy, using his cloth (used to shake mulberry trees), captures a T-72 type tank from the enemy (this also happened), it means that not everything on the battle front is determined by quantity. It is nevertheless understandable that Nagorno-Karabakh, with a population of approximately 150,000, cannot fight a protracted war against Azerbaijan, a country of six million. But as surprising as it may be, Azerbaijan is also the first to yield in the area of manpower resources, by losing tens of thousands of soldiers and enormous numbers of armored vehicles and aircraft on the battlefields of Karabakh. Recently Arzu Abdullayeva, chairman of the Azerbaijani committee at the Helsinki Congress, announced that since the beginning of the Karabakh War the Azerbaijani side had suffered thousands of casualties, adding that the true number of casualties exceeds official figures by several-fold. Hence it is not mere happenstance that the 1992 fall draft call in Azerbaijan pulled in a total of only 8,000 young men (according to Azerbaijan Radio). Naturally the consequence is that, on the one hand, Azerbaijan claims that in Karabakh there are foreign mercenaries (for the most part Russian) fighting on the Armenian side (it is a embarrassing to admit that the Karabakh not only is resisting by itself but is beating Azerbaijan to boot) and, on the other hand, Azerbaijan itself is turning to the help of mercenaries. In one of the February issues

of the newspaper KRASNAYA ZVEZDA there is a report that 1,200 Russian officers have gone to Azerbaijan "on TDY." As regards the Russians who are allegedly fighting in the ranks of the Karabakh Army, I met two of them in Stepanakert. At their own admission they had come to Karabakh in order to escape criminal prosecution, and they wanted to join up. Military authorities, however, not only did not accept them into the military but in fact forced them to leave the territory of the Republic of Nagorno-Karabakh in short order.

The war cannot continue forever, and everybody understands this. But peace must be achieved, and this too is understood by all in the Karabakh. I understand the fact that there will be no peace until such time as Azerbaijan becomes convinced that it is impossible to conquer the Karabakh by force of arms. The people in the Karabakh are convinced that the day is near when Azerbaijan will be forced to conduct negotiations with Karabakh. And this is the first step not only toward peace but also toward victory.

MOLDOVA

Defense Ministry Refutes Charges Against Business Activities

934K1015A Chisinau NEZAVISIMAYA MOLDOVA
in Russian 24 Mar 93 p 2

[Press release of Defense Ministry Board, issued by ministry press secretariat: "Caution, Disinformation!"]

[Text] In connection with the publication of the article "The Firm Is Not Making Brooms" in VECHERNIY KISHINEV on 16 March 1993 (the author is the well-known jurist and publicist P. Zheverdan), which misled readers and, in our opinion, was of a tendentious nature, and in connection with the impossibility of publishing a quick response in the same newspaper, the board of the Ministry of Defense wishes to report that the Vichi firm

was established by a decision of the Defense Ministry Board in conformity with the laws of the Republic of Moldova and was registered as a state enterprise without private capital participation in the State Registry Office of the Ministry of Justice. Therefore, the questions the article raised about the legality of the firm's establishment and registration are deliberate disinformation.

The firm was established to supply the armed forces with military equipment on the basis of market relations. The equipment includes tens of thousands of different types of military hardware, weapons, spare parts and components for them, ammunition, etc. Besides this, according to the firm's charter, it is a specialized subdivision of the Ministry of Defense, is working under its supervision, and is performing specific functions for the provision of troops with supplies and also for the use of economic facilities with no other express designation.

The assets included in the firm's charter capital are still the property of the Ministry of Defense and, according to the charter, are not subject to privatization, in spite of the author's conjectures. In accordance with republic laws and with the charter, the right to monitor the firm's operations may be exercised by any monitoring government agency and staff members of the Ministry of Defense.

The firm's chief administrators are in the military and their salaries are set by the Ministry of Defense. All of the firm's profits are the property of the state, are at the disposal of the Ministry of Defense, and are being used to build housing for servicemen and to finance essential improvements in military installations and in personal and consumer services for military personnel.

The Board of the Ministry of Defense wishes to announce that articles of this kind are intended to drive a wedge between the army and the people, do not promote trust between them, and cast aspersions on the leadership of the Ministry of Defense and the officer corps.

ARMS TRADE

Maley Advocates Expanding Arms Sales

PM2901144993 Moscow IZVESTIYA in Russian
29 Jan 93 Morning Edition p 4

[Interview with Mikhail Maley, adviser to the president, by Vyacheslav Shchepotkin; date and place of interview not stated: "Arms Exports: Evil or Good; Russia Is Resolutely Altering Its Approach Toward Conversion and Presidential Adviser Mikhail Maley Considers This Path Justified"]

[Text]

[Shchepotkin] A while ago a new approach was formulated toward the conversion of the Russian military-industrial complex, whose thrust is that the defense complex could not destroy but feed the country. Feed it thanks to the export of arms and military equipment. Mikhail Dmitriyevich, please tell us whether this approach is now being developed or, as often happens, is no more than an intention?

[Maley] The new concept is being developed and strengthened. In my view the main thing has been done. The concept of the economic and physical conversion of the defense complex with the emphasis not on the destruction of the accumulated scientific, technical, and cadres potential but on its use in the country's economic interests has become state policy.

It is true that we are so far not advancing along this path as rapidly as we would like but that does not depend on us alone. To a certain extent the past is an impediment—there were no market conditions for the military-industrial complex and the monopolies of the foreign military-industrial complex are offering active resistance.

[Shchepotkin] But after all we used to export arms in the past. Has experience not been accumulated?

[Maley] It has. Only not the kind of experience we need now. We used to use political means to decide where to sell weapons. We had to support a particular regime—so we used to send it enough weapons for whole armies. The work was measured, unhurried, ideologically consistent, and our four statewide companies through which weapons were sold could cope with the task.

But on the world market they operated differently. For instance, a war is underway in a particular African country. The opponents of the president who is in power have broken through the front and, to equalize it, the president urgently needs three or four armored personnel carriers. We would take six months to decide this question, but his enemy will seize the capital within two weeks. The vehicles are needed within a maximum of 48 hours. On a normal market the customer lays down a wad of dollars and within 48 hours an aircraft lands, the armored personnel carriers (but not ours) roll out, and the front is equalized.

We are not yet ready for that. And not because of narrow professionalism, no, our specialists know their job. They had the wrong orientation. I would illustrate this point as follows: A man knows how to walk but he does not know how to march in step. Can he master this science? Of course. Our people must be placed in the same conditions as their foreign counterparts. Market conditions. The arms trade market is complex, crowded, in practice built on personal ties, and has long-known and permanent intermediaries. Precise rates are established here as are permanent commission rates (not \$4 under the table as a bribe but a legal 4 percent on a \$100 million deal). It is an elite market entirely comparable with the diamond market. We are also integrated into it. The network of our military trade organizations is also worldwide. But ideological separation has kept many countries from us, which suited our economic competitors very well. That is why we must now develop new market areas and that cannot be done without retraining specialists and expanding the trade network.

[Shchepotkin] You said our producers must be placed in the same conditions as their foreign competitors. Does that mean we must give our plants the opportunity to enter the foreign market directly?

[Maley] I cannot agree with that. Yes, the old Soviet system was clumsy and not a market system and consequently it was economically ineffective. Just four companies for the whole of an enormous country was extreme. But we must not go to the opposite extreme: Let all 250,000 producers rush into the foreign market at once to sell their military output. They have never once been abroad because of the specific nature of their work and, most important, they do not represent the market. If such a producer goes out onto the world market with his assault rifle then either they will pick this rifle up for a song or [apparent line drop]

[Shchepotkin] So what structure do we need?

[Maley] In my view something between the two extremes. Especially for the transitional period. We are creating two levels of trading organizations. The first consists of federal companies. A further two or three will be added to those that already exist. They will have charge of the sale of particularly dangerous weapons on particularly large scales to those countries with which we have never done business and sales to border regions where the situation is constantly kept in sight by the Supreme Soviet and the president. And the final function of the federal companies is to supervise at state level the activity of regional structures carrying out an independent trade in arms.

In Russia now there are 88 subjects of the Federation. In almost each one something is being done involving the military-industrial complex. We must create interregional trade companies of the joint-stock company type

most likely with mixed capital: state, private, municipal, and so forth. One such company has already been created in Udmurtia. Various military equipment is produced here: from assault rifles to missiles. The "Kalashnikov" joint-stock company has received the right to enter the world market with some items produced in the region.

Similar companies must be created in other regions. A plant or association—even the largest—cannot cope with creating its own trade infrastructure and does not need to. Let joint-stock companies undertake this. With an outlet onto the foreign market and at the same time with vital links with the interests of the territory, they can render substantial economic support to the region and to the military-industrial complex enterprise itself in carrying out conversion.

Incidentally, we are probably wrong to transfer the American concept of the "military-industrial complex" put into circulation by D. Eisenhower to our own military industry. I recently mentioned this to the U.S. ambassador and he seemed to receive the information with interest. In the United States military-industrial corporations together with the generals decide the fate of presidents. But in our country anyone from the defense industry, even the most renowned, could be dismissed immediately not even by a communist party Central Committee secretary but even by a less important "denizen" of Staraya Square. There is no room right now to speak of this in detail, I shall show the difference in just one aspect. Foreign corporations have only grown rich from the sale of weapons but at our plans at best the director would obtain a quarterly bonus. The entire profit would vanish into the abyss of the all-union budget. So regional companies should also rectify that point. And they will have the opportunity. I cited the example of the African country which needed three armored personnel carriers. A colonel from Moscow, from a federal company, would not even make a telephone call to the Kurgan plant where these armored personnel carriers are produced. He would not lift a finger unless the order were 10-20 times greater. But a regional company would meet the order with pleasure.

[Shchepotkin] We are talking of expanding the trade in military output but I can imagine some people's reaction. They will say that we must not export weapons, on the contrary, we must reduce the sale of weapons by our country which has filled the world with its weapons...

[Maley] Reduce for what? To clear the way on the world market for producers from other countries? Then let's take a look at some figures. In 1992 the United States sold weapons worth \$30 billion and Russia sold weapons to the sum of \$4 billion. Even at the very peak of our arms trade a few years ago in a year we sold weapons to the sum of \$14 billion. So who should be shouting? It is simply the closed nature of the Soviet system, the public's lack of objective information about the state of

affairs, which prevented use from seeing the picture in full and people did not know we were far from being leaders in the arms trade.

[Shchepotkin] And who are the leaders?

[Maley] I would name the United States. And in addition Israel, Brazil, and China. That is why, in reducing our trade, we are essentially helping our foreign competitors. Or let's look at it from another angle. We sell a Kalashnikov assault rifle on the domestic market—to our army—for 6,000 of today's rubles. On the world market, if we set a price of \$150 it will be snatched from our hands. Work it out at today's exchange rate and you will see what kind of money the collectives and enterprises are losing.

In the world the quantity of weapons produced is the quantity the market requires, that is, they are bought. From this it follows that if Russia reduces the sale of weapons, other countries will immediately increase production. Whether the pacifists and humanists like it or not, it is a law of the market. And since that is so we must have very weighty grounds at a time when our people are impoverished for giving those dollars to someone abroad and dooming our own people to unemployment, the collapse of their high-tech potential, and further poverty. I think that this is not the time for one more experiment with our people and thank God the president has made no move to take away quite valuable work from our people and give it to an American or Israeli producer.

Moreover, we must not only retain our place on the world arms market but also expand it. You think we were held back solely for ideological reasons? Of course ideology had a large place but economic interests were of no less if not greater importance. The arms trade gives a profit of 300 to 800 percent. Protecting such profitable business against competitors is a paramount task for the authorities of any country. How else to explain that the Coordinating Committee for Multilateral Export Controls both impeded the penetration of military output from the country under the red flag onto the world market and is impeding it now, although the state does not exist, and Russia has changed its flag, abandoned communism, and embarked on a democratic path. That can be explained by economic interests. Be it in the field of uranium, missiles, submarines, or other fields. I shall cite one example, which is worth thinking about. When the Americans launch reusable spaceships, according to the information which has come in every booster discharges at least 200 tonnes of hydrogen chloride into the atmosphere. And this is a unique compound which nothing can destroy. Additions of hydrogen chloride into the atmosphere work against the ozone layer and against the environment and I think even have an impact on human genetics.

It would seem that if another fuel were to be found in the world without this dangerous effect on the environment then it should immediately be disseminated. And Russia has created an ecologically clean fuel, we could supply it

to all countries, but our space competitors continue to discharge hydrogen chloride into the atmosphere. So didactic sermons which continue to be addressed to us regarding the immoral nature of the arms trade are hardly permissible. The United States recently taught the world a lesson in hypocrisy by selling sophisticated aircraft to Taiwan. And we have a full moral right, like all other countries, to trade in military output in our people's interests. Conversion is not the destruction of top-level technologies for the sake of producing primitive articles. Conversion is the transformation of the military-industrial complex by selling the output from it which is bought on the world market. Conversion is the liberation of the meager Russian budget from expense on the military-industrial complex and the swelling of the budget with currency in cash.

DOCTRINAL ISSUES

Military Reform Progress, Next Stages

*LD1203115593 Moscow KRSNAYA ZVEZDA
in Russian 10 Mar 93 pp 1-2*

[Lieutenant-General Andrey Nikolayev article: "On Some Problems of the Organizational Development of the Russian Armed Forces: Experience of First Steps of Military Reform"]

[Text] The history of the Russian Army goes back over many centuries and the history of military reforms is no less rich. We have information about military reforms in Russia dating back to the times of Ivan IV (the Terrible), who created the standing army of the streltsy [military corps which enjoyed special privileges under the tsar] formed under a voluntary and virtually contractual system (in the 16th century).

Peter the Great created a regular Army and Navy based on a recruit [rekrutskiy], that is, compulsory system (18th century).

In the mid-19th century (1860-1870), Russian Minister of War D.A. Milyutin created a mass army based on universal [vsoslovnnyy] military service instead of the recruit system.

After the defeat in the Russo-Japanese War there was a reform in Russia aimed at the qualitative improvement of the Army without changing the principle of staffing.

Under Soviet power there were several fundamental reforms. The first such reform was conducted by M.V. Frunze in 1924-1925 with the aim of creating a peacetime army which would be less cumbersome but more combat capable.

It is less than a year since the Russian President's Decree on the creation of the Russian Armed Forces was signed. That explains the considerable public interest in the Army and the Navy and in Russia's defense organizational development in general.

Questions of the organizational development of the Russian Armed Forces, strengthening the defense capability, and creating the legislative foundations in this sphere have been examined a number of times at sessions of the Supreme Soviet, the Security Council, and the Government of the Russian Federation. The president and the supreme organs of state power have adopted a number of most important documents on the formation and development of the Russian Army and Navy and the social protection of servicemen. They also form the basis of the Defense Ministry's practical work.

The events of 1992 confirmed the correctness and timeliness of the Russian leadership's decision on the creation of the country's own Armed Forces, which made it possible to halt the sharp decline in the level of their combat readiness which had begun. The wholesale dismemberment of the Armed Forces into "ethnic compartments" was prevented as far as possible and the legal status of servicemen on the territory of Russia and other CIS states where Russian troops are stationed was defined more precisely.

However, in terms of structural combat composition, especially in conditions when the Army is being reduced, that section of the Armed Forces which we inherited did not correspond to the new tasks and demands or to the realities of the international and domestic situation and needed a thorough phased reform. Furthermore, the groupings of troops (forces) of which they were comprised were not an integral military organism. The systems of combat management and communications, operational-strategic formation, and comprehensive support of troops and naval forces had been destroyed.

That is why we must considerably recreate the Russian Armed Forces and at the same time resolve several interconnected tasks: ensuring the planned withdrawal of our troops from other states' territories to Russia and providing facilities for them; the considerable reduction of the Armed Forces; and the thorough reform of those forces. In this process we must also get down to resolving the acute social problems in the Army and the Navy which accumulated back in the days of the former USSR Armed Forces.

Much has been written lately about the problems of the Armed Forces. Unfortunately, many authors of articles often give one-sided assessments and inaccurately interpret facts regarding the military reform that is being implemented and specific features of military organizational development in Russia. In this connection I should like to express a few ideas on the main areas of the organizational development of the Russian Armed Forces and the experience of the first steps of the military reform.

When the Defense Ministry elaborated the concept of the organizational development of the Russian Federation Armed Forces we proceeded from the premise that the Army and the Navy must be ready to resolve a broad range of assignments: from ensuring Russia's security

and protecting its sovereignty and state interests to fulfilling Russia's obligations to the CIS member states and the world community in maintaining peace and stability. In addition, it is not ruled out that the Armed Forces may be drafted to help the population clear up the aftermath of technological and ecological catastrophes and natural disasters.

The organizational development of the Russian Federation Armed Forces is based on two most important principles for ensuring military security:

principle one—detering any aggressor from launching a world nuclear or conventional war by maintaining the Strategic Nuclear Forces in a state which ensures retaliatory actions with the required level of effectiveness in all conditions;

principle two—detering an aggressor from launching regional or localized armed conflicts by the creation and maintenance of the combat potential of groupings of general-purpose troops (forces) as part of the covering forces and reserves of the Supreme High Command at a level which guarantees that aggression will be repulsed and that the potential for the prompt buildup of the Russian Federation Armed Forces is ensured as the scale of hostilities grows.

The embodiment of the above principles for ensuring Russia's military security in the practice of the organizational development of the Armed Forces should be implemented consistently in several stages.

In the first stage (1992) we have already implemented the main organizational measures in the formation of the Russian Federation Armed Forces. In that period the General Staff conducted extensive work involving military scientists to seek the minimum necessary combat composition of peacetime troops, achieve the optimum correlation of branches of the Armed Forces and categories of troops, and determine which forces and resources are preferable in the new conditions. In this connection there was an analysis of the actual state of the Army and the Navy and the level of their combat readiness and combat capability and an inventory of arms, combat hardware, and property has been largely carried out.

The Russian Federation Defense Ministry was formed and the main measures in the organizational development of the Armed Forces for the immediate term (to 1995) and areas of their further reform (through the year 2000) were defined.

The fundamentals of the normative legal base of the organizational development and functioning of the Armed Forces have been elaborated, or to be precise: new views and approaches to the use of the Strategic Nuclear forces have been elaborated; the draft fundamentals of the military doctrine and the concept of the military-technical policy of the Russian Federation have been prepared; a program for the gradual reduction of the authorized strength of the Armed Forces has been adopted; the plan for the withdrawal of the troops from

the territories of other states, their deployment, and provision with facilities has been clarified; the laws "On defense," "On the status of servicemen...," and "On military obligation and military service" have been elaborated and adopted and a whole set of other draft laws on the solution of the Armed Forces' social and other problems are ready for examination by the Russian Federation Supreme Soviet. At interstate level much work has been done to elaborate legal acts regulating the presence of Russian troops in the Transcaucasus, Moldova, and other former republics of the USSR.

A new organizational staff structure has begun to be introduced in the Ground Forces. This means the general reform of armies into corps and divisions into brigades.

In 1992 the directorates of the Main Commands of the troops of sectors [napravleniye], one military district, two armies (the 4th and 7th of the Transcaucasus Military District), eight divisions, and two military schools were disbanded.

The authorized strength of the Russian Armed Forces was reduced by more than 200,000 servicemen in 1992. As part of this reduction the size of the Defense Ministry central apparatus was reduced by 27 percent.

The Concept of Mobile Defense has been worked out. We have abandoned the principle of forming a defense of uniform strength along Russia's entire border as was the case in the USSR. The concept contains a fundamentally new approach to the creation of defensive groupings which envisages the existence of three main elements—covering troops, mobile forces, and reserves.

A task fundamentally new to us—the participation of Russian Armed Forces in UN peacekeeping operations as well as in collective peacekeeping forces in the CIS—was resolved. At present our officers and men are taking part in operations of that kind in Yugoslavia, the Dniester region, Tajikistan, Abkhazia, and a number of other regions. The general grouping of troops carrying out these tasks has within it one army, one army corps, two divisions, four brigades, and 10 regiments.

In a number of cases, however, the fulfillment of this task is complicated by the imperfect normative-legal contractual base. Many of the documents that have been adopted were elaborated and ratified in different military-political conditions. That is why they do not now correspond to present realities and, in our opinion, should be reviewed to varying degrees.

During stage two, lasting three years (1993-1995), we plan to complete the formation of the Armed Forces and create the basis for their in-depth transformation.

In accordance with the Law "On defense," it is proposed to reduce the strength of the Army and Navy to approximately 1.5 million by 1995. As part of this reduction it is planned that the general-purpose forces will reach the levels envisaged by the Paris Treaty (1990) and the

Tashkent Agreement (1992) among the CIS member states. At the same time, with the disintegration of the single defense area of the Warsaw Pact and the USSR, the implementation of the Paris Treaty could lead to an imbalance and asymmetry between NATO and the other parties to the CSCE which is bound to cause definite concern.

One of the main tasks of stage two is the formation of groupings of troops (forces) on the territory of the Russian Federation. At the same time it is planned to create a peacetime military infrastructure which ensures the stable functioning and management of the groupings of troops in the regions.

The management of the Armed Forces will be built on the principle of the demarcation of administrative and operational functions of management under the overall leadership of the President of the Russian Federation—the Supreme Commander in Chief of the Armed Forces. The administrative function will be exercised within the framework of the Defense Ministry. It is envisaged that operational leadership will be exercised in the following sequence: the Russian Federation Defense Ministry—the General Staff of the Russian Federation Armed Forces—the High Commands of branches of the Armed Forces and the commands of large strategic formations and combined units.

During the second period it is planned to switch mainly to a mixed system of recruitment to the Army and Navy. I should like to note that even now, in such complex economic conditions, the president and government of the Russian Federation deemed it possible to allocate extra appropriations for 1993 for the contract hire of around 100,000 people. By the end of 1995 the number of people serving under contract should be around 30 percent of the total number of sergeants and enlisted men in the Armed Forces. By the year 2000 it is planned to increase the proportion of people serving under contract to no less than 50 percent of the total strength of the Army and Navy.

Finally, there must be a comprehensive study to justify the numerical strength, combat composition, and structure of the Armed Forces for the period after 1995.

During the third stage (after 1995) it is planned to complete the creation of qualitatively new Russian Armed Forces. This is connected with the implementation of radical transformations in the structure and branches of the Armed Forces and categories of troops. While favorable external military-political conditions remain the transition from the traditional five-branch structure of the Armed Forces to four branches and perhaps even a three-branch structure is possible. In this period it will be necessary to complete the creation of groupings of troops (forces) and the military infrastructure on the territory of Russia and ensure the final transition to the mixed system of staffing the Armed Forces with personnel.

One of the most important features of this period is the implementation of contractual agreements on the limitation of nuclear weapons, that is, the START I and START II treaties.

To give you an idea of the volume and importance of this work I shall cite a few figures. It will be necessary to recycle around 6,000 strategic munitions, up to 100,000 tonnes of toxic liquid rocket fuel, and 18 or 19 strategic submarines. All this will require enormous material costs running to hundreds of billions of rubles.

The implementation of the plans on the organizational development and reform of the Russian Armed Forces also envisages the solution of a number of other problems.

Troops (forces) are already being withdrawn from the territory of other states and defensive groupings of troops on Russian Federation territory are being created. In resolving this task, we are departing from the traditional practice whereby the most powerful and combat-ready groupings of troops were deployed along the borders of the former USSR and also in groups of forces on the territory of other states. As is well known, they are based as a rule on tank and combined-arms large strategic formations and combined units, strike aviation groupings, and tactical nuclear weapons. Such an approach on the whole corresponded to the doctrinal principles of the organizational development of the Armed Forces and the goals of repulsing external aggression against the Soviet Union from all possible directions. At a certain historical stage this was justified. But today we can no longer be guided by such views.

In 1992 15 divisions, 23 rocket, artillery, and antiaircraft rocket brigades, 36 aviation and helicopter regiments, around 100,000 servicemen, 2,000 tanks, around 1,500 artillery systems, a large quantity of other combat hardware, and around 1 million tonnes of material and technical resources were shipped back to Russian territory.

By the end of 1995 it is planned to remove a further 17 combined-arms divisions and 20 aviation and helicopter regiments. In all 250,000 servicemen (including 95,000 officers and NCO's), around 120,000 units of various equipment, and over 2.5 million tonnes of material and technical resources and munitions will be withdrawn.

The transfer of such a considerable quantity of troops and armaments to Russian territory and the operational and strategic expediency of stationing them there may make it necessary to specify the regional sublevels of the basic armaments limited by the Paris Treaty. The point here is that bearing in mind the arms quotas allocated to the Transcaucasian states and Ukraine, Russia, for example, can only have in total around 165 tanks and 10 armored fighting vehicles on the territory of the vast North Caucasus Military District. But this is contrary to common sense. I believe that without changing overall the quotas prescribed for Russia, the regional sublevels

require clarification and coordination in view of the changed political situation on the territory of the former USSR.

At the same time the leadership of the Defense Ministry is paying great attention to practical measures to achieve the maximum proximity between the authorized strength and the actual strength of the Russian Federation Armed Forces. As part of the transformations the aim is to reduce the number of combined units and reduced-strength units as much as possible.

It is expedient in the future to pay more attention to the elaboration of measures guaranteeing the unconditional implementation of the agreements that have been concluded, especially within the framework of the CIS, and to ensure the strict observance of commitments by all sides. In addition, the mechanism of mutual relations between the Russian Defense Ministry and the High Command of the CIS Joint Armed Forces needs further improvement.

At present the Defense Ministry is working actively to complete the formation of a new military-technical policy as the most important element of the state's industrial policy. Its main aim is the comprehensive solution of the tasks of equipping the Russian Army and Navy with modern arms and military hardware and the preservation of the potential of the most important components of the defense complex in the new military-political and economic conditions.

We believe that the Defense Ministry should play the role of state client for the main arms systems, military hardware, interbranch [mezhdovoy] technologies, including dual-purpose ones, and components (with finance for these technologies and components separate from the Russian Federation Armed Forces budget). This will ensure the higher level of standardization and unification of arms and equipment. In addition, as market relations come into being so the Defense Ministry must reserve for itself the functions of a military output price watchdog.

In resolving these and many other problems, the leadership of the Army and Navy consider it their most important task to ensure the combat capability of troops (forces) and to keep their combat readiness at the level of minimum defense sufficiency for the country's protection.

Part of the forces of the Strategic Rocket Forces and the sea-based Strategic Nuclear Forces, who are on combat alert duty, are in a state of constant readiness to fulfill their combat assignments. At the same time, the lack of bilateral treaties and agreements between the Russian Federation and Ukraine and Kazakhstan relating to groupings of part of the nuclear forces deployed on their territories makes the solution of questions of nuclear safety and the operation of missile complexes more difficult.

In our view we cannot overcome this situation until we resolve the main question—the state ownership of the

Strategic Nuclear Forces. They must be under the jurisdiction of the Russian Federation. This must be resolved as quickly as possible or else they must be withdrawn to Russia very soon or dismantled in their present deployment locations.

When creating groupings of general-purpose forces we take into account not only the presence of certain strategic and operational sectors but also the need to protect strategically important installations connected with nuclear technologies, the fuel and energy complex, state and military management systems, and base sectors of industry.

Paramount attention is being paid to creating the bases of the mobile forces. They are designed to compensate as much as possible for the sharp reduction in the numerical strength of groupings of troops (forces) in peace time, to ensure when necessary our military presence in any region under threat, and to reinforce groupings of troops in operational sectors. The experience of the use of the Russian Armed Forces in "hot spots" confirms that this question must be resolved as soon as possible.

I hope that what I have said will help the reader to understand in broader terms and consider in greater depth the enormous work connected with the present stage of the organizational development of the Russian Armed Forces and its prospects.

CIS Defense Policy Dilemmas Explored

93UM0538A Moscow ROSSIYSKIYE VESTI
in Russian 14 Apr 93 p 7

[Article by Vladimir Petrovskiy: "Barriers on 'Transparent' Borders"]

[Text] The paradoxical nature of the situation resides in the fact that the CIS exists and simultaneously does not. Not many people today believe that the Commonwealth is alive; the majority think otherwise. That which many specialists foretold almost one and a half years ago during the formation of the CIS has come to pass—neither a political, nor an economic, nor a defense union has been achieved within the framework of the Commonwealth.

It must be said that the first steps to create it were constructive and therefore fairly reassuring. The heads of state and heads of governments of the Commonwealth were offered for discussion a mass of questions of interstate significance, and important agreements were reached on many of them. But in practice, the majority of them, especially agreements on military questions, just never reached the point of implementation. The reasons for this are many. The main reason, perhaps, is the fact that "the high contracting parties" never imagined that the burden of responsibilities that they took on themselves in creating the CIS would turn out to be so heavy. This led to a situation in which the "principle of

equal participation" in the affairs of the Commonwealth turned out to be beyond the powers of the majority of CIS subjects, and the hopes that the partners pinned on Russia at the main motive force of the CIS were not borne out. There began an intensive process of rejection of everything connected with the CIS. First to go was the main achievement of the Commonwealth—the agreement on the "transparency" of borders, and the existence of a unified military-economic space. The crumbling of this base makes the Commonwealth unviable and its breakup just as painful as the breakup of the USSR.

Let's focus on the defense aspects of the Commonwealth's activities. The grandiose plans created about a year ago to form a military organization within the framework of the Agreement on Collective Security have gradually lost their majesty and grand scale, from time to time changing to more pragmatic plans and planners. As a result, attempts to create a CIS Unified Armed Forces [OVS] have failed, and the CIS OVS Main Commissariat has turned into something ceremonial, a sort of symbol of the reliability and viability of the Commonwealth.

At one time the idea was to create unified Strategic Deterrent Forces and General Purpose Forces within the CIS. Lengthy and painful for the participants were the negotiations concerning which associations and units were to be considered national, and which were to be included in the CIS Unified Armed Forces. But in the homestretch the negotiations reached an impasse, for it turned out that all military formations were obliged to have a national affiliation. Otherwise it was unclear whom UAF military servicemen should swear allegiance to and how the defense and security of the Commonwealth could be provided for under the conditions of the continuing fragmentation of its subjects. With regard to nuclear weapons, things reached the point of total absurdity. For example, a scheme was proposed in which the financing of nuclear forces would be handled by one side, while questions of their jurisdiction and military use would come under the competence of another side. Naturally, any hope of long-term and viable agreements on such a basis within the framework of the CIS was doomed to failure.

Nothing came of the General Purpose Forces, either. The independent states essentially ignored the necessity of placing national units under the authority of the CIS OVS Main Commissariat, thus violating one of the main priorities of collective security. After this, the idea of joint defense turned into a soap-bubble, an outcome which is only to be regretted. And so the main military organ of the Commonwealth is now forced to look for something to do: maybe hold a conference on problems of collective defense, or a meeting on a similar theme, or suddenly offer its services in organizing and conducting peacemaking activities in the crisis regions of the former USSR. But all its appeals and proposals, correct in essence, are failing to find an addressee. This confirms yet again the thought that the Commonwealth has

become an abstraction, and its subjects simply have not matured to the idea of multinational defense.

There has been failure in practically all areas of the mutual defense activities of the independent states. The main reasons for this, probably, are two. The first is the emergence and escalation of distrust for one another among the subjects of the Commonwealth. In such a situation it is incredibly difficult to reach mutual understanding, and many sound ideas in the area of defense have been buried just because a number of participants in the process have seen them not as sensible proposals for getting out of the impasse, but as the concealed "imperial ploys" of, for example, Russia, Belarus, or Kazakhstan.

The second reason, clearly, is the fact that many subjects of the CIS have yet to emerge from a state of "nationalist euphoria." The fluttering national flags of new colors, the opening of embassies in the capitals, the visits between their leaders and the reception of foreign delegations—this, of course, is very healthy. But it is time to return from the heavens to the sinful earth. It must be determined where we are going, and with whom, what kind of society to create, and what kind of system to legislate. We must work out concepts of state development, establish the range of national interests, and define our place in the world and how, if necessary, to defend it. That is what must be done, and as quickly as possible.

This speed is all the more appropriate in that Turkey, Iran, and other countries of the Asiatic-Pacific region are currently waging a secret struggle for influence around the former Soviet republics, particularly in the Transcaucasus and Central Asia. Let us hope that certain independent states do not, as a result of political flirtations, lose their national character, or find themselves in another "empire," as one of its appendages. The preconditions for it, unfortunately, exist.

It is clear now that the amorphous CIS is not viable. The time has come to move the creative quest to a new phase. In all probability, it would be worthwhile to put on the agenda for the very near future the question of creating a federation, or at least a confederation, consisting of Russia, Belarus, and Kazakhstan. By all appearances, these states are already "ripe" for unification. In the political, economic, and military sense, these states have made the effort to achieve their union, while the others, most likely, have yet to strive and suffer for as long as they aren't prepared to form a federative or confederative state system on a new basis. Leaving open the question about the entrance of new subjects into it, Russia, Belarus, and Kazakhstan could be earnestly engaged in mutual transformations of political and economic life, which is not as ruinous as acting singly.

MILITARY CONFLICT, FOREIGN MILITARY AFFAIRS

Notes on Chinese Visit to Observe Far East Exercises

93UM04404 Moscow VOYENNY VESTNIK
in Russian No 12, Dec 92 pp 7-12

[Article by Lt-Col V. Kutishchev: "Feeling the Rocks Carefully: Coming Closer Together, Including Militarily"]

[Text] A military delegation from the People's Republic of China visited the Red Banner Far East Military District in the middle of August of this year as an expression of good faith and in honor of the Agreement on the Guiding Principles of Mutual Reduction in Armed Forces and Strengthening of Trust in Military Affairs in the Area Adjacent to the PRC [People's Republic of China] of 24 April 1990. The foreign observers participated in a field command and staff exercise. Participating in the exercise in addition to staffs of the large strategic formation, large units, and units were subunits of the Ground Troops, Pacific Ocean Fleet, and frontal and army aviation. This activity included the development of planning and organization problems related to defense against seaborne assaults and the retaking of an overrun position. There was a total of about 5,000 men involved.

An ancient Chinese piece of wisdom teaches that, in crossing an unknown stream, one should feel the rocks carefully. This saying involuntarily comes to mind in reviewing the first steps made in Russo-Chinese relations. Indeed, it would be naive to expect anything else in the matter of establishing normal and civilized relations between the peoples. For too long did ideological blinders prevent looking upon our neighbor as a friend and equal partner. All the more since our friendship has a long and rich history.

The present Chinese generation unfortunately either remembers virtually nothing about the past, or simply knows nothing about it. They know little about us and our history. This became clear during the contact with the Chinese military observers. We were quite surprised to learn that a large number of them were solidly convinced that it was not until the 1960s that our country's submarine fleet came into being. And the Chinese comrades experienced quite a revelation on their Vladivostok visit to a former Guards combat submarine that had been made into a museum of the Great Patriotic War.

Nonetheless, what made a lasting impression was not the above, but the guardedness which the guests attempted to conceal behind their friendly smiles. And the heightened interest in the particular weapons and combat materiel presented; in the organizational structure of units and subunits; in the tactics of combined-arms combat, etc. In a word, in everything which for many years had carried the stamp of secrecy.

The "open door" policy is still something new to the military. Every military person participating in the event must have experienced a strange feeling as he watched the guests make notes in their notebooks during the open conversations—ones without "omissions"—involving a particular item of armament.

Well, the times are changing, and so are we. Not as rapidly as we would wish, it is true. I must admit that it was somewhat unusual for all of us to hear the Chinese military observers express thoughts of friendship on the training ground. However, the fact remains that there was talk of friendship, even though the military aspects were of course in a position of central importance.

At the same time, the foreign military observers were extremely reserved in their evaluations and comments on what they were witnessing. I cannot conceal the fact that we were interested in their opinion of the exercise as carried out, in practical aspects of life in the PRCA [People's Republic of China Army], and in this kind of command and staff exercise and tactical operation as carried out in their country. It was natural for us to entertain this curiosity, since that was a meeting of professionals. For this reason, we took advantage of the first opportunity to request the guests to answer questions constituting a kind of survey I had drawn up:

—What are your impressions of the exercise?

—How do you rate the actions executed by the units and subunits participating in the CSE [command and staff exercise]?

—Are there appreciable differences in the way the Chinese Army conducts this kind of tactical exercise?

—What wishes do you entertain?

Since everything is revealed in a comparison, our interviews included Russian officers and generals as well.

And so, we start with the Chinese side.

Senior Colonel Wan Tsyamin, chief, Combat Training Directorate, Shenyang Military District:

I am deeply pleased at the opportunity of attending such a large-scale operation. My colleagues and I have witnessed much that is of interest. I believe that this kind of contact is useful for both sides. All the more since there is no appreciable difference in the organization of combat training as administered in the Chinese Armed Forces and the Russian Army.

The sole shortcoming we noted was the imposition of conditions on the conduct of the battalion tactical exercise with opposing force. For example, the attacking subunits of Naval Infantry acted in a manner characterizing circumstances associated with actual modern combat, but the defending battalion merely went through the motions. In general, the CSE demonstrated smooth teamwork of the command and control elements and a sufficient degree of skill on the part of the troops.

I cannot fail to mention our contacts with the enlisted and noncommissioned officer personnel participating in the exercise. Talks we had with them reinforced our opinion of the Russian soldier's standing as a good specialist and valorous fighter. Especially impressive were the kindness, openness, and genuine desire to understand those who live next to them.

Chinese soldiers also wish to be friendly with their neighbors. Indeed, they are diligent in their strengthening the combat power of the PRCA. There are no contradictions in the foregoing. The point here is that only a strong army can assure the country's security and maintain peace. I raise the hope that the ties between our peoples will become stronger. I will be happy to have Russian officers pay a visit to the Shenyang Military District. I am convinced that participation in this kind of exercise by foreign military observers serves not only to promote combat training, but furthers the cause of peace and strengthening of trust as well. All the more since there is much in common in the history of our states, and old friendship will never be forgotten.

OUR COMMENTS

With the collapse of the Soviet Union, China is more disturbed by the existence of democratic processes in Russia than by a military threat from the North. The border separating the two states is undergoing a continual transformation from a first line of defense to a line of peace, one being crossed by a copious flow of goods. Although there are some areas in dispute, military confrontation is abating. Russia is withdrawing troops from Mongolia and has reduced 12 divisions in the Far East. China, finding this to its liking, is prepared to exhibit flexibility. Peking has already announced its intent to reduce the Army's manpower by half a million men. The reduction may be even deeper.

China evidently sees the experience of the Persian Gulf War as a demonstration that a major role is now to be played not by numerical strength of troops, but by the quality and capabilities of combat materiel. In any event, Peking has already undertaken a large-scale program of modernizing the Armed Forces. Considerable importance in this regard is attached to the purchase of new armaments from foreign countries, especially from Russia. Contracts previously concluded by China have resulted in delivery of Su-27 fighters; expected to be delivered are Su-31 interceptors and T-72 tanks.

In the first 10 days of August, Russia sold China 12 Su-27 aircraft, while in November she will deliver an equal amount. In addition, our neighbor is interested in deliveries of other types of armaments, in particular those intended for PVO [air defense] troops and Naval forces. In a word, Russia is becoming China's major supplier of modern combat materiel.

Major General Ye. Frolov, deputy army commander for combat training:

The exercise, as we have said, has been completed. The mission problems have been completely resolved, training goals attained, and staffs and subunits delivered good practice in organizing and conducting combat operations under various conditions, including the sea-shore. This is all the more important, since, in my view, little has been done for the study of interaction of ground troops with aviation and Naval forces and for command and control of units and subunits under the kinds of conditions encountered at the present time. I think that it is here that we must look for the causes of the shortcomings brought out by the exercise.

We will, at a later time, study the results and perform a detailed analysis of the operations broken down into phases. Nonetheless, we have already been able to single out the most efficient officers and commanders whose subunits were the most adept at accomplishing the training mission. This list includes Regimental Commander Guards Lieutenant Colonel A. Berenkov; Battalion Commander Guards Major A. Bliznyuk; Company Commander Guards Senior Lieutenant A. Kudovinskiy; Platoon Leader Guards Senior Lieutenant V. Sokolov. Included here from Naval Infantrymen are Colonel A. Nevostruyev's subordinates Lieutenant Colonel I. Starchev and Officer V. Zhiltoripenko. The organization of this kind of large exercise in our time, one of difficulty, is associated with a very large amount of material outlays. For this reason, we had no choice but to set in various aspects certain conditions which I mention in passing, did not go unnoticed by the Chinese comrades.

Nonetheless, I believe that the actions performed by the staffs and subunits did create in them a due impression. They told us that they can learn something from us. Especially at the present time, when the PRCA is undertaking a thorough reorganization. I hope that the exchange of experience in the organization of combat training will take place on a systematic basis to our mutual advantage.

OUR COMMENTS

The guidelines set down by the military leadership for the construction of the Chinese Armed Forces are based on the assumption of a low probability of breakout of a world war in the near future and the opportunity of utilizing the prolonged period of peace to effect systematic modernization of the PRCA.

The long-term goal of military construction is to create by the middle of the 21st century armed forces that will be capable of waging various kinds of war against a technically strong adversary. In the first phase—by the year 2000—it is planned to develop the country's scientific, technical and economic base to create a platform for effecting complete rearmament of the Army and Navy. Also considered necessary for accomplishing this period is assurance of Armed Forces readiness to conduct local wars on the entire perimeter of the border.

Planned for the second phase is effecting broad re-equipment of the Armed Forces to assure protection of the country's national interests on a global scale.

Of strategic nuclear forces, to undergo development in the period to the year 2000 are all three types of those forces: ground, air and sea. The strategic missile forces are expecting the deployment of fixed launch sites of the liquid-fuel Don Feng-5 [transliterated] ICBM equipped with MIRV warhead and solid-propellant ICBMs. Expected in strategic aviation is refitting of the Hong-6 bomber for cruise missiles, while the nuclear missile-armed fleet will receive the PLARB [nuclear-powered ballistic missile submarine].

Relative to the general-purpose forces, it is planned to expand their combat capabilities by effecting partial rearmament, adopting new organizational structures, and removing obsolete materiel from the inventory.

Expected to appear in the ground forces are operational-tactical missiles, mobile antiaircraft missile systems, combat helicopters, and new models of armor vehicles. The organizational structure of large strategic formations and large units will be improved in line with the adoption of new types of weapons and combat materiel.

Colonel Lyao Shinin, Combat Training officer, General Staff, PRCA:

The field command and staff exercise with troop involvement created an indelible impression. In our view, the Naval Infantry subunits and reinforced motorized rifle battalion acted skillfully and tactically efficiently. We realize that the high level of troop readiness was attained by virtue of consistent training. The exercise must have been preceded by a large amount of training and drill. That is why I wish to express my profound gratitude to all enlisted men, officers, and generals, who invested much time and effort in preparing for the exercise.

I have more praise than I can express for the training ground on which all the events took place. Most outstanding in this regard is its size. It creates the impression that it is large enough to contain a small European state, at the least. Its area makes it possible to set up a complex and instructive environment. Unfortunately, there are few such training grounds in China due to the decided lack of space.

Speaking of combat training in the Chinese Army, we attach a great deal of importance to providing a scientific basis for all organizational measures related to the conduct of this kind of exercise, including the coordination of staff and troop actions. In the BTU [armor exercise] with live firing, I liked the armor's movement to the final coordination line. The sustained motion, smoothness of teamwork, and precision in crossing the deployment lines are indications of a high level of field training on the part of subunits. We add here the effective fire inflicted by the artillery, aviation, and other weapons

designated to conduct direct fire. I doubt that defenders would be able to withstand such an onslaught in actual combat.

The sole aspect that reduced the instructiveness of the BTU as far as we were concerned was the attack carried out by the enemy's "orange" troops while in motion, without dismounting from the vehicles. In the Chinese Army, the assault as a rule is carried out on foot. We are of the opinion that the conduct of fire through firing ports is insufficiently effective. Only when a soldier sets foot into the enemy's emplacement can it be said that victory is achieved. Incidentally, in our country, live ammunition is fired over the heads of troops engaged in exercises. It is the opinion of our specialists that this tends to develop the men's mental readiness for actual combat.

In general, we come away with impressions of the highest order. This kind of contact is necessary. I wish that you would come to China to attend exercises.

OUR COMMENTS

China's Armed Forces, the manpower needs of which are filled by universal military obligation with voluntary enlistment, consist of the People's Liberation Army, People's Armed Militia, and People's Home Guard. The PLAC and PAM [People's Armed Militia] are part of the regular Armed Forces, numbering about 4,950,000 men. The PLAC consists of four components: strategic missile troops (90,000 men), ground troops (2,300,000 men), air forces (470,000 men), and naval forces (260,000 men). The strength of the People's Armed Militia is 1,830,000 men. The People's Home Guard, constituting a reserve of regular troops, numbers 12,000,000 men.

The highest state organ exercising leadership over the Chinese Armed Forces is the Central Military Council, which is subordinated to the All-China Assembly of People's Representatives, and its Permanent Committee, the Military Council of the Communist Party Central Committee of China, serves as the organ of party leadership and supervision over Armed Forces activity. Both councils constitute a dual organ of state and party leadership over the Armed Forces.

Included in the working organs of the Central Military Council are the General Staff, Main Political Directorate, and Main Directorate of Rear Services. Also subordinated to the Central Military Council is the Ministry of Defense, which carries out directives and instructions issued by the military-political leadership relative to construction of the Armed Forces and interaction with other defense departments.

The General Staff serves at the same time as the Ground Forces Staff. It also exercises leadership over the strategic rocket forces, VVS [air forces], and VMS [naval forces] via their staffs.

Lieutenant Colonel S. Korotkov, General Staff senior officer, Armed Forces, Russian Federation:

In general, the command and staff exercise with field participation of command and control elements and subunits was well organized and well conducted. The assigned missions of refining operational control of staffs, troop field training, and problems of cooperation and control were accomplished.

Speaking of individual aspects, such as the tactical exercise involving an opposing force, there were some shortcomings. Salient here were the inadequate performance displayed by the leadership in effecting teamwork between the sides, and the conditions imposed in organizing the system of defensive fire.

Are there features peculiar to tactical and command and staff exercises as carried out by the Chinese Army? There are. Of major importance is the fact that in the organization of the exercises representatives from the District Combat Training Directorate monitor—at the same time—decision-making on the part of the staff on the one hand, and order implementation in the units and subunits proper on the other. The military leadership is of the opinion that this makes it possible to perform an objective evaluation not only of a decision made by a commander (an order issued by the staff), but also of the capability of carrying out the order. It is the action taken by the troops that makes it possible to judge the applicability of a decision.

It is interesting that the abovementioned directorate's representatives' participation is mandatory in the organization of all exercises, be the latter of the company, battalion, regimental, or division level. Chinese specialists believe that this approach assures high quality. I would like to see this kind of contact take place on a regular basis. There is no question about its usefulness.

OUR COMMENTS

The PLAC may be broken down by function into the strategic nuclear forces and the general-purpose forces.

The strategic nuclear forces consist of strategic missile troops, aviation, and nuclear missile-armed fleet. The total number of nuclear weapon delivery systems is approximately 200, with this including 68 land-based PR [anti-missile ?] launchers (two launchers for the Dong Feng-5 ICBM, which possesses a range of 12,000 km; six launchers for the Dong Feng-4 IRBM with its 4,550-km range; 60 launchers for the Dong Feng-3 IRBM with its 3,000-km range); 12 launchers for the Tszyulan-1 submarine-launched ballistic missile (offering a range of 2,400 km) on a nuclear-powered ballistic missile submarine platform type Sya, and 120 Hong-6 bombers (possessing a combat radius of 2,300 km).

The Chinese leadership, with the qualitative and quantitative makeup of the strategic nuclear forces in mind, considers the forces as largely constituting a powerful factor deterring a probable adversary and as a means of "strategic nuclear retaliation."

General-purpose forces. The Ground Forces consist of 24 combined-arms armies, 90 combined-arms divisions

(including 10 tank divisions), 10,000 tanks, 18,300 launchers and RSZUs [multiple rocket launchers ?], and 3,100 BMPs [combat infantry vehicles] and BTRs [armored personnel carriers]. In service in the Air Forces are more than 4,600 combat aircraft, 600 SAM launchers, and more than 16,000 anti-aircraft guns. In the inventory of the Naval Forces are 370 combat ships (including one PLARB [nuclear-powered ballistic missile submarine] and 92 other submarines) and about 1,300 combat aircraft.

Lt Colonel Li Lupin, Combat Training officer, General Staff, PLAC:

I am grateful for having had the opportunity of visiting your country and making the acquaintance of the enlisted men and officers of the Russian Army. The exercise served to convince us that they are masters of their weapons and combat materiel.

We are enormously interested in the organization of combat training, but our interest goes beyond that to include the service and duty conditions of enlisted personnel and officers. That is why we wish to learn everything: how officers are issued notification of an alert; procedure for selecting candidates for military schools; how many youths are interested in becoming officers; the degree of difficulty of service associated with company-level commanders. We obviously have much in common.

However, there are differences. For example, in the Chinese Army, company-grade officers are quartered with their personnel, but with some isolation. They are cut off from their families for several years, being granted the opportunity of seeing their relatives only on days free of duty. This arrangement makes for hardship, of course. But it serves the interests of strengthening the combat readiness of subunits and tends to promote closeness between commanders and their subordinates.

I must say that Chinese Army officers are quite familiar with the life of the enlisted man. In the matter of acceptance into military schools, preference is given applicants who have past or present Army service. Some applicants are not accepted; selection is geared to favor outstanding candidates and, in the main, junior commanders. Young men are anxious to enter military service, since the state guarantees them various privileges.

As far as officers are concerned, they are part of the medium stratum of the population and are provided with all their necessities. For example, they are granted priority status in the matter of assignment of living quarters; in our Army there is no such thing as a housing problem. Local organs of authority attach great importance to finding employment for wives of servicemen. A Chinese officer is never assigned to a station where his wife would not find employment.

Our first visit is one of establishing an acquaintanceship. I hope that the future will see a time when we will get together on a regular basis on Chinese as well as Russian soil. Till we meet again!

At that time, no one could have foreseen that—exactly one week after the conclusion of the 15 August exercise—in the Ministry of Defense of the Russian Federation, Russian Ministry of Defense Army General P. Grachev would meet with Colonel General Qin Jiwei, PLA minister of defense, to discuss problems of relations in the military, military-technical, and military-cultural areas.

We now know that the meeting produced an understanding relative to the need for new political thinking not only in economic and political matters, but in military ones as well. This is of great importance for both states. And, we might add, for our great peoples as well. For living alongside each other and not being on friendly terms is something not in tune with human nature. The truth of that thought once more became apparent in the time of the contact with the Chinese military delegation that took place on the Far East soil. We wish to entertain the hope that in the future we will meet with them quite a number of times, not only on the Russian training ground.

FROM THE EDITORS:

While the above article was in preparation, we received information regarding Russian Federation President Boris Yeltsin's forthcoming trip to the People's Republic of China. This raises the hope that new life will be injected into the development of Russo-Chinese relations.

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F-117A Low-Observable Aircraft

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[Article by Lieutenant Colonel, Candidate of Military Sciences I. Borodavko and Lieutenant Colonel, Candidate of Military Sciences A. Manachinskiy, under the rubric: "Military Affairs Abroad": "F-117A Low-Observable Aircraft: The Experience of Combat Employment (Based Upon Foreign Press Articles)"]

[Text] Today, hardly anyone would refute that the military-technical capabilities of the sides are having a substantial impact on preparations for and the technique for unleashing a war and the course and outcome of combat operations. Another confirmation of that is the conflict in the Persian Gulf Region. Some models of weapons and military equipment actually received their combat christening here. Among them is the F-117A aircraft.

During the last two years, the Western mass media has published quite a few articles which have revealed the

specific features for training flying personnel, and the combat employment and maintenance of the stealth aircraft that have embodied the latest achievements in the sphere of Stealth technology. And this is explainable: the F-117A's masking properties that are fundamentally different than those of traditional manned aircraft open new possibilities for concealed and surprise aircraft operations. And therefore they cause the need to select the appropriate tactical methods for its employment over the battlefield.

Here are the F-117A's distinguishing characteristics that first and foremost attract the attention of military experts.

The small (approximately 0.2-0.5 m²) radar cross section (RCS) due to the special shape of the airframe and the use of radar-absorbent composite materials and coatings in it. For comparison: the RCS of the primary mass of fighter aircraft that are in the inventory is 1-2 m².

The low threshold of heat radiation. It is attained by screening the most highly heated parts of the engines and by cooling their nozzles, through the use of heat-insulating materials, and also through the introduction of substances into the jet of exhaust gases that reduce their temperature and change their radiation spectrum.

It has low electromagnetic radiation thanks to the utilization of the AVQ-26 Pave Tack special onboard apparatus, optical-electronic sights, television receivers and weapons that do not need to illuminate targets. In addition to that, during the course of combat operations in the Persian Gulf Region, F-117A aircraft pilots were ordered to operate in the total radio silence mode.

It has insignificant visual-optical visibility which was first and foremost achieved through the black, matte (ferrite-based), microwave radiation-absorbent paint of the airframe's elements. Special measures permitted them to practically eliminate dazzles from the cockpit glass and to substantially reduce smokiness from the engines at maximum operating modes. Here we need to mention the employment of the aircraft primarily at night.

It has a low acoustical signature due to the use of low-noise engines, and also sound-absorbent materials and devices, including in the air intakes. Two General Electric F404-GE-F1D2 non-afterburning by-pass turbojet engines with a thrust of 5,400 kg each have been installed on each aircraft. They are studying the possibility of replacing them with the F-412 that was developed for the A-12 Avenger low-observable carrier-based ground attack aircraft

According to eyewitness statements, the F-117A issues a loud noise only during take-off and while gaining altitude. While flying at cruising speed, it is practically not heard

The foreign press has noted that specific features cited in combination with special measures (utilization at night and radio silence) reduced the capabilities of Iraqi PVO [Air Defense] weapons systems to combat multinational forces (MNS) aircraft by 40-60%. Even with the absence of active noise jamming that form the basis of radar reconnaissance of airborne targets at low altitudes, the P-15 radars (Western designation—Flat Face) could do practically nothing to assist their own anti-aircraft missile and artillery systems (ZRK and ZAK).

The P-14 (Tall King) metric range radars, that detected these aircraft at ranges (depending on the target's angle of approach) at ranges of 18-54 km, were the exception. Indeed, a small number of these radars (a total of four models of which two were immediately put out of commission by AH-64A Apache helicopters) did not permit the Iraqis to create a more or less effective information system against Stealth type targets.

But the very fact of the detection of such widely acclaimed aircraft under combat conditions dispelled the myth about their total invisibility for radars. According to information that appeared, the French-manufactured Shahine anti-aircraft missile radar that was deployed in Saudi Arabia repeatedly detected the F-117A at ranges of up to 20 km or more while the aircraft operated in the altitude ranges of 2-3 km with speeds of 900-1,000 kilometers per hour.

As for the conflict itself, prior to its initiation, F-117A aircraft were in the inventory of the U.S. Air Force TAC [Tactical Air Command], 12th Air Force, 37th Tactical Fighter Wing, 415th and 416th Tactical Fighter Squadrons. Besides the two named squadrons, the 417th Tactical Fighter Training Squadron equipped with AT-38B aircraft is part of the wing. However, only 44 stealth aircraft operated as part of the multinational forces. And although they were only 2.3% of the total number of aircraft, they carried out approximately one percent of all aircraft sorties and destroyed approximately 40% of the priority enemy targets.

Various sources have assessed the F-117A's effectiveness during the period of the conflict in different ways: some said the number was 95% and others—only 80%. Each combat sortie lasted six hours on average. In the process, flight range as a rule exceeded 3,000 km thanks to two aerial refuelings.

We would like to dwell on that last circumstance in more detail. If you take into account that the pilots were prohibited from conducting any radio transmissions, it was a source of additional difficulties for them. In order to avoid collisions with refueling tanker aircraft, the F-117A's were obliged to enter previously selected zones on the routes of travel with an accuracy up to three seconds with an altitude deviation of no more than six meters from the specified altitude.

But nevertheless inter-aircraft communications existed. It was carried out using either a laser system or a special signal light, the source of which was located directly

behind the cockpit. Incidentally, it was also used to illuminate the fuel receptacle.

The F-117A approached targets at a strictly planned time immediately after the cruise missiles when, as a rule, the Air Defense systems had already been suppressed. Precision-guided weapons were counted on to destroy targets. The comparative results of the employment of American weapons in wars (see the table) that was published in a foreign magazine quite graphically illustrates their effectiveness.

	Second World War	Vietnam War	Persian Gulf War
Type of aircraft	B-17	F-105	F-117A
Number of sorties to destroy a target	4,500	95	1
Number of bombs to destroy a target	9,000	190	1
Size of KVO [circular probable error], in meters	3,000	300	0.3

Being in the first strike group echelon, the stealth aircraft operated jointly with F-15E and F-111 fighter-bomber aircraft. The usual weapons were—guided aircraft bombs (UAB) with laser guidance systems.

As a rule the F-117A attacked priority targets in Iraqi cities and in troop deployment areas, the destruction of which required high accuracy. For example, in Baghdad the State Telephone Center, government institutions, BAAS Party Central Committee buildings and four airports became such targets. These aircraft were also used for the destruction of enemy aircraft shelters. Altogether during the six week war, they completed approximately 80% of their combat sorties against strongly-defended targets. In this context, the fact of the destruction of the Ozirak Nuclear Center is significant.

Incidentally the previously mentioned complex had already been subjected to attack by the Israeli Air Force in 1981. Subsequently, its defense from the air was substantially improved: a 90-meter high earthen berm, on which the Iraqis placed smoke pots every five meters, was erected around the primary buildings. Surface-to-air missile launchers were deployed outside it.

This time the multinational force command authorities initially allocated 75 American F-16's for the destruction of the nuclear center. But the enemy put up a smoke screen in a timely manner which interfered with precision bombing. Furthermore, the Iraqis conducted heavy anti-aircraft fire. Under the threat of disruption of the combat mission, a decision was made to use the new weapon system. At night eight F-117A's dropped 16 guided aircraft bombs, each of which they assert hit the target. Strikes were also conducted on subsequent days and each aircraft normally carried two guided aircraft bombs with laser guidance systems: GBU-10 or GBU-27 900 kilogram bombs. Their circular probable error (KVO) is quite small.

In general, 36 F-117A's had already participated in combat operations in the first days of combat operations, of which 24—at night and 12—after 17:00 hours local time. In the majority of cases, the strikes were conducted by single aircraft and, in the process, bombs were dropped at an interval of several seconds. Only three ground-based targets were attacked by strike groups of two aircraft, each of which had two GBU-27 guided aircraft bombs.

On the second day, 28 aircraft were active: 16—at night, 12—during the second half of the day, in twilight. The buildings of the ministries of defense and information and the state security forces headquarters became the primary targets. Groups of two aircraft armed with GBU-10 guided aircraft bombs conducted the strikes.

They carried the attacks out as follows: the F-117A's approached the target in loose formation. At the operating range of the on board laser-IR target illumination system, one of them (the first) dropped the bombs and moved off to the side. In the process, its on board system, located in the lower nose section of the fuselage, continued to illuminate the target being attacked until the moment of impact of the munition. Then the second aircraft made its run on the target.

This method permitted the pilot of the tail aircraft to assess the situation and to make an appropriate decision. For example, not to conduct an attack if the lead aircraft was detected by enemy PVO systems, was damaged or destroyed by them, and also if the target was destroyed. On the other hand, he could complete the destruction of the target.

Well, two on board IR cameras in the forward and lower hemispheres helped him to make the decision. The former was located in the nose section of the fuselage and provided a field of view ahead and to the sides. Based upon the pilot's desire, it could incline somewhat from the primary direction. The second camera (retractable) was located under the fuselage, to the right of the forward landing gear and was intended for monitoring the lower and rear hemispheres.

After the first days of air operations, the intensity of the combat employment of the F-117A's was somewhat reduced. However, the multinational force commander was soon compelled to once again increase their operations. This was explained by the fact that, having completed approximately 100 combat sorties, the F-15E, F-16 and F/A-18 aircraft could not destroy any of the 42 most important enemy bridges in a strategic context.

We would like to especially stress: each time the F-117A's operated independently because even the on board radars of the E-3A DRLOU [long-range radar surveillance and control aircraft] "AWACS" aircraft could not track them and guide them to the targets. That is why, while also considering the high cost (nearly \$42.6 million) of the stealth aircraft, the operations were planned with special care. In the process, they strove for precise operation of ground navigation systems and

scrupulously considered all of the latest intelligence information, including that which had been obtained from aircraft and space reconnaissance systems. An F-117A pilot was provided with the maximum amount of information on the Iraqi PVO system. Moreover, EF-111 Raven and E-6B Prowler electronic warfare aircraft, which neutralized the remaining enemy radars, flew out to the strike targets beforehand.

Obviously, including thanks to these measures, not a single F-117A was shot down, even despite the comparatively low flight speed and maneuverability.

After the conflict, some experts in the West expressed the thought that in individual cases (with adequately complete suppression of air defenses) that they shouldn't need to escort and cover the F-117A's with air defense fighter aircraft and electronic warfare aircraft.

We can expect: The reassuring results of the combat employment of the F-117A's will promote further developments of aircraft with the use of Stealth technology. Specifically, work is being increased on the ATF program. Furthermore, it's obvious that the realization of the B-2 bomber development program which was halted due to its great cost will move off of dead center.

And yet, we should certainly be more critical of the statements of those people who talk about the practically unlimited capabilities of the new generation aircraft to penetrate enemy air defense systems. We should point out that stealth aircraft operated in nearly test range conditions in the Persian Gulf Region. And that was explained not only by their actually unique characteristics but also by the weakness of Iraq's air defense that was equipped with old detection radars. We must note the poor training of antiaircraft weapons crews which also played into the hands of the F-117A crews.

Another factor also appeared: stealth aircraft can be detected by modern radars at ranges of up to 20 kilometers. Therefore, we can talk about the capability to combat them with short range antiaircraft missile and artillery systems.

The fact that F-117A crews will encounter significant difficulties after fundamentally new target detection and tracking systems have been accepted into the inventory also does not cause doubt. Such as, for example, radars with a transmitter and receiver that are dispersed in locations (multiposition radars). Or over the horizon radars that illuminate a target not from the forward but from the upper hemisphere where the RCS of a stealth aircraft is significantly greater.

And the time is near when a potential enemy will have an entire complex of systems for their detection in the entire electromagnetic wave spectrum. That will force pilots to look for and use fundamentally new tactics.

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Western 'Campaign' Against Russian Peace-keeping Force Protested

934Q0050A Moscow KRASNAYA ZVEZDA in Russian
24 Mar 93 p 3

[Article by Col Aleksandr Olinnik, KRASNAYA ZVEZDA correspondent, reporting from Moscow, Belgrade and Klisa: "Smoke Without Fire, or Why the Russian U.N. Battalion Finds Itself 'Targeted' by the Western Press"]

[Text] *As has already been reported, some mass media outlets in the West are waging a campaign against the first Russian battalion serving with U.N. forces in former Yugoslavia. Articles on this subject appeared almost simultaneously in the WASHINGTON POST and in the British SUNDAY TIMES, not to mention the articles that have been published in the Croatian press.*

Whenever politics is involved, there can in fact be smoke but no fire—that is how these articles that have appeared in well-known newspapers in both the New World and the Old could be described, to put it mildly. Therefore it is not at all a matter of coincidence that out of the several tens of "blue helmet" battalions from various countries that comprise the U.N. peacekeeping forces in former Yugoslavia, it is only the "Rusbat," as our battalion is called here, that has been "targeted" by Western journalists. Worse, our "blue helmets" have not given them any cause do so.

No two ways about it, the "blue helmets" currently in Yugoslavia (approximately 23,000 of them) have definitely not done everything stipulated by the UNPROFOR mandate. However, they have performed their most important function: preventing bloodshed in Serbian Krajina. And a major contribution to that effort, according to the U.N. forces command, was made by the "Rusbat," which controls the most "explosive" demarcation line between Croatia and Serbia, a place where bitter fighting was going on just one year ago. It was our battalion that was the only one to completely neutralize the opposing sides in its assigned zone. Serbian and Croatian troops have been withdrawn and weapons, including tanks and artillery pieces, have been collected in warehouses, sealed and turned over to U.N. guards.

Literally one day after the article appeared in the WASHINGTON POST the Russian battalion was visited by Satish Nambiyar, then commander of U.N. forces in Yugoslavia. In a special ceremony he personally awarded the battalion's soldiers and officers the U.N.'s "In the Service of Peace" medal. In his brief remarks he commented on the courage of our soldiers and their level-headedness during an attack by Croatian troops in Serbian Krajina.

On more than one occasion actions by Russian military personnel have been singled out by high-ranking U.N. leaders such as Goulding, the U.N. deputy general secretary for military affairs, and U.N. Secretary General Boutros Ghali, who visited Moscow at the end of last

year and there commended the actions of the Russian battalion in a speech to members of our parliament. Finally, just recently the Russian MVD and the Russian Federation Ministry of Defense received an official report from the U.N. Secretariat concerning the activities of peacekeeping forces in former Yugoslavia which stated that the "Rusbat" had received positive comments...

If that is the case, then what is the source of the conclusion made by the WASHINGTON POST that initial efforts by Russian troops in their first operation as part of a U.N. peacekeeping force were not successful?

"That is a false conclusion, one that flies in the face of the facts, and was made for the sake of short-term political gain," is the opinion of Vadim Pukhov, deputy chief of the Main Administration for International Military Cooperation under the Russian Federation Ministry of Defense. "Clearly someone in the West needs to discredit our battalion at all costs and once again play the 'Russian card' in the tangled knot of the Balkans."

What objective was behind this campaign—albeit a short one—in the press? I think I would not be far off the mark if I said that it was to once again cast aspersions on Russia, a member of the U.N. Security Council, and thereby again "remind" public opinion that the Russians cannot be depended on. As for Zagreb, it has long been attempting to have the Russian "blue helmets" removed from the important sector they currently hold, and they even have a suggestion as to where they should be redeployed: in the "Bosnian meat grinder."

Now for the specific incidents cited in the articles. Many of them—and this should be particularly emphasized—were probably borrowed by the writers from the Croatian press, which has been systematically "expressing" the Russians. Naturally without any critical facts, relying primarily on rumors, and on images of pure fantasy.

Consider, for example, a key incident mentioned in both articles (WASHINGTON POST and SUNDAY TIMES), i.e. that the Russians are doing everything they can to aid the Serbs, even helping them "acquire weapons." Specifically, the Russians are accused of opening up the warehouses under their protection, where heavy weapons are stored and distributing those weapons to the Serbs.

At issue is a situation that occurred on 22 January, a day when Croatian troops, sweeping out of French and Kenyan U.N. posts, launched an unprecedented aggression against the Serbs in the south-eastern vicinity of Knin. Fearing a general Croatian offensive, the government of Serbian Krajina declared a mobilization and broke into up warehouses containing equipment and weapons. Incidentally, virtually all the warehouses under U.N. control were opened up. Yet the article makes no mention of that. Also in Sector East, where the "Rusbat" is deployed, the Belians opened all their warehouses without a word of protest. But the article's authors

under Russian supervision two, located in Vukovar and Tenja, were nevertheless not opened.

It so happened that at that very time I was with the battalion and saw how difficult it was for its commander, Col Leonid Arshinov, to persuade the Serbs, who were very seriously alarmed by the Croatian aggression, not to open up the warehouses and take up arms again. Incidentally, also present during this discussion was Belgian Col Yves Mattarte, the sector chief of staff.

If we are being thoroughly objective, then we should note that it fell to our "blue helmets" not only to calm the local populace, but also certain members of the U.N. forces who intended to unilaterally abandon the danger zone. Specifically, this happened with a British medical platoon (I should not that it was unnamed English medics who were quoted by the female journalist from the SUNDAY TIMES.). I saw how the face of their commander, Maj Jan Lane, grew flushed when Russian "blue helmets" halted their column, which was preparing to move out, and "persuaded" them to go back to their barracks located on the outskirts of Vukovar.

Incidentally, around that time the English invited myself, battalion commander Arshinov and a platoon of Russian soldiers to lunch. Our soldiers felt at ease. I found out that the "Rusbat," which is, incidentally, deployed a long way from the city at a former airfield, often hosts guests from among the Belgian military personnel, and they are sometimes also visited by the English and the Finns. On such occasions there are impromptu international soccer and volleyball tournaments... So the "revelation" in the SUNDAY TIMES article that allegedly soldiers in the U.N. forces avoid contact with Russian soldiers is pure fantasy.

The same newspaper also wrote that on three occasions the Russian battalion received an order to move its headquarters from Erdut to Vukovar, and that on all three occasions it failed to comply.

"That is fiction from start to finish," was the brief comment on this "sensation" offered by Col Aleksandr Khromchenkov, former commander of Sector East, who returned to Moscow last year. "What was mainly at issue was relocation not of the Russian battalion, as claimed in the report, but rather our sector headquarters, to which only a few Russians are attached. Later, after consideration of the matter, a U.N. technical commission concluded that it would be inappropriate to relocate the headquarters, since Vukovar has polluted water sources, frequent power outages and a difficult public health and sanitation situation..."

And about another "key" fact: "Last year," the WASHINGTON POST reported, "Russian Col Viktor Loginov received a new white Mercedes-Benz as a present from the Serbian commanders, despite U.N. regulations forbidding him to accept such gifts."

What can be said on this point? Col Loginov, commander of the battalion's first unit, is a well-known name

among the U.N. forces. He has repeatedly found himself under sniper fire and has conducted hours-long negotiations in Serbo-Croatian with both Serbs and Croats. Upon completion of his contract, in October of last year, he returned home from Yugoslavia. He did drive home in his own car. According to Viktor Nikolayevich, he bought the car at a local market. And it was not a new car, it was a 1983 model.

As for the claim that soldiers serving with the "Rusbat" allegedly "drink wine and make advances at women," I do not even know how to respond. Yes, at the airfield where the battalion headquarters is located there are two cafes run by local businessmen. They offer not only wine, but also vodka and whiskey. True, their prices are even steeper than in our restaurants at home. And it is the business of each individual officer and soldier (most troops serve here under contract) which beverage he wants to buy when he is off duty. As for women, I can only say that the battalion is located in a "dead zone," where there are not many people of any kind...

In conclusion I would like to note that the articles in question also contain some true statements. These concern the fact that our military personnel, in contrast to their foreign colleagues, do not have police backup, and their living conditions are worse. They also receive a much smaller amount of hard currency, even though they are taking just as big a risk as the other "blue helmets." It is also true that the battalion has no trained cooks able to prepare meals according to U.N. standards...

And perhaps the most important thing, a thing that cannot be denied: yes, the Serbs are sympathetically inclined toward the Russian soldiers and officers, and they make no effort to conceal that. That friendship between our peoples has roots going back centuries. But is that any reason to launch a campaign in the press, produce fabricated facts and events and compromise the status of the "blue helmets" by once again playing the "Russian card" in the already tangled Yugoslavian conflict? That is not what we are here to do, esteemed colleagues!

SECURITY SERVICES

Gen Kosolapov to Head North Caucasus Internal Troops District

93UM0525A Moscow KRSNAYA ZVEZDA in Russian
20 Apr 93 p 2

[Interview with Major-General Yuriy Anatolyevich Kosolapov by KRSNAYA ZVEZDA Correspondents Anatoliy Borovkov and Nikolay Astashkin, Rostov-na-Don: "Major-General Yuriy Kosolapov: 'An Internal Troops District—This Is a Totally New Structure'"]

[Text] From KRSNAYA ZVEZDA's Dossier: Yu.A. Kosolapov was born in 1938 in Poltava. He graduated from the Internal Troops Military School and from the

Military Academy imeni M.V. Frunze. He has passed through all rungs of the service ladder—from platoon commander to division commander. He served in Bashkiriya, Samara, Saratov, Chelyabinsk and Krasnoyarsk.

He was USSR MVD [Ministry of Internal Affairs] VV [Internal Troops] Directorate chief of staff for Central Asia and Kazakhstan and for North Caucasus and Transcaucasus, and later worked at the Russian Internal Troops central staff. In January 1993, he was appointed commander of the North Caucasus Internal Troops District.

[Borovkov/Astashkin] Yuriy Anatolyevich, let's begin with history. A USSR MVD Internal Troops Directorate existed for a long time in Rostov-na-Don, later it was transformed into the corresponding directorate of the Russian Internal Troops for North Caucasus, and then it was eliminated altogether. However, not even a year has passed and we have already had to form the Russian Federation MVD North Caucasus Internal Troops District here. What is this—the latest change of signboards or an absolutely new structure?

[Kosolapov] In my view, the decision on the elimination of the structure of the internal troops directorate in the south of Russia was hasty and not carefully thought through. The tragic events in November of last year in Northern Ossetia's Prigorodnyy Rayon when command and control of the troops was lost in the first hours of the armed conflict are confirmation of that. And that prevented a timely reaction to the seats of tension that had arisen. The appropriate conclusions have been drawn from all of that.

[Borovkov/Astashkin] So, the first internal troops district has been created...

[Kosolapov] We understand all of the responsibility that has been laid on us right now. Similar internal troops formations will soon be created in other regions of Russia right after the North Caucasus.

As for the issue of "changing signboards", I will answer: not at all. And the primary distinction consists of the organizational structure. In other words, our district is more military. If there were primarily armed prisoner escort units in the former directorate, currently nearly three-fourths of the district's troops are operational subunits.

Previously, we had primarily regiments and brigades. Now full-fledged divisions have been created. Furthermore, we have our own support units. That is first of all. But the second distinction, and certainly a very important one, is functional. Our primary mission is—protection of public order and ensuring the safety of citizens in areas with a difficult situation, that is, in "hot spots". Thus, a quite powerful outpost has been created on Russia's southern borders for the protection of the public and social interests of its citizens.

[Borovkov/Astashkin] And what has already been done?

[Kosolapov] The current development of a situation in any region assumes an immediate reaction to processes that arise, especially if that is associated with negative phenomena of public life. Motorized militia units and internal troops operational division-sized units have been brought in to prevent mass disorders, armed clashes and bloodshed in the area of the ChP [extraordinary event] in Northern Ossetia and Ingushetiya, on Stavropol's borders with Chechnya and Krasnodar Kray's borders with Georgia.

Incidentally, we have established precise coordination with SKVO [North Caucasus Military District] units and with the border troops. I will remind you that a border district with headquarters at Stavropol is already being created in our region. As soon as the law on the border has been promulgated and the administrative border with Georgia and Azerbaijan acquires the status of the state border, we, jointly with the "green hats", will also participate in the realization of that law.

[Borovkov/Astashkin] Yuriy Anatolyevich, the new is always born in difficulties and I think that you will also not get by without them...

[Kosolapov] We have practically already completed the formation of the district headquarters and we are completing the formation of the operational division-sized and smaller units. Substantial resources are being allocated for troop infrastructure, the purchase of combat and transport vehicles and the construction of housing for servicemen in accordance with the Russian Federation President's edict. But we can in no way obtain them—the country's budget has still not been approved. Another urgent problem is undermanning. We have received just about one fourth of the contingent planned for the district.

For example, our units that are in "hot spots", in accordance with the Law On Internal Troops, should perform duty for no more than three months, after which we must replace them. Right now, we cannot totally replace them with district units. Does it turn out that we will once again have to assemble troops here from the entire country? But that means—to once again spend astronomical sums to transport people, equipment, and cargo.

[Borovkov/Astashkin] KRASNAYA ZVEZDA informed its readers that a command post exercise had been conducted in the district. Yuriy Anatolyevich, could you, albeit briefly, comment on its results?

[Kosolapov] That was the first KShU [command post exercise] for our structure. But I can quite responsibly say that the first step is always the hardest. And this is why. Generals, officers, all officials who were involved in the exercises understood their responsibilities and worked not from fear but from conscience, while attempting to verify the effectiveness of the district troop directorate's newly created structures. The command post exercise leader Internal Troops Commander Lieutenant-General Anatoliy Kulyakov spoke positively first

of all about the execution discipline of our organs. And although we understand that this assessment was given to us a bit in advance, on the whole Russia's outpost in the south passed the first test.

[Borovkov/Astashkin] Do you plan to have Cossack units in the district?

[Kosolapov] First of all, the Cossacks themselves oppose their military formations becoming a part of the internal troops, while considering that, even under the Czar, the Cossacks opposed carrying out gendarme functions. We also oppose that. Our units are being formed based upon the extraterritorial principle. Therefore, we have decided not to include Cossack subunits or units in our district.

[Borovkov/Astashkin] And the last question. Right now a subscription campaign has begun. Understanding how important it is for your servicemen to be up to date on events that are occurring, we would like to hear your thoughts on that score.

[Kosolapov] Naturally, we are actively involved in the subscription campaign. In our view, the resources that have been allocated to the district for the collective subscription to KRASNAYA ZVEZDA are inadequate. Really KRASNAYA ZVEZDA remains perhaps the primary information guarantor for district units and subunits that are performing their duties in the most varied situations. Therefore, we will undertake all efforts to find additional resources for the collective subscription.

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